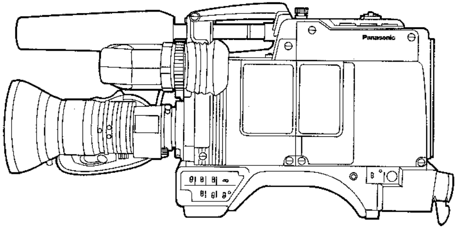
Panasonic

AQ-11D/20D E

3-CCD Digital Camera



VQT4518

Table of Contents

1. General 3
2. Features 4
3. Specifications 5
4. System Configurations 6
5. Precautions for use 7
6. Controls ad their Functions 8
7. Camera System Connections and Assembly 14
  7-1. Assembly as a single VTR/ Camera Integrated Unit 14
  7-1-1. Battery Holder Assembly (option) 14
  7-1-2. Assembly of the Camera and VTR 15
  7-2. Connections when VTR and Camera are used separately 16
  7-2-1. Assembly of Camera Adaptor AQ-CA1/CA3 or Multi-Core Camera Adaptor AQ-CA50 16
  7-2-2. Assembly of Fiber Optic Camera Adaptor AQ-CA55 17
  7-3. Lens Mounting 18
  7-4. Viewfinder Attachment 19
  7-5. Tripod Attachment Mounting 20
  7-6. Attaching the Shoulder Strap 21
  7-7. Mounting an external Microphone 22
  7-8. Mounting the Rain Cover 22
  7-9. Extension Handle Attachment 23
8. Power Supply Connections 24
  8-1. When mounting the VTR and supplying power from the VTR 24
  8-1-1. Battery Pack AU-BP220 24
  8-1-2. Anton Bauer Battery Pack 25
  8-1-3. AC Adaptor AU-B110 25
  8-2. When using the Camera and VTR separately 26
  8-2-1. Battery Pack AU-BP220 26
  8-2-2. Anton Bauer Battery Pack 26
  8-2-3. AC Adaptor AU-B110 27
9. To Use the Viewfinder 28
  9-1. Position adjustment 28
  9-2. Diopter adjustment 29
  9-3. Screen adjustment 30
  9-4. Lamp displays inside viewfinder .. 31
  9-5. User Settings 33
  9-5-1. User Setting Method 33
  9-5-2. User Setting Items 35
10. Shutter Speed 37
11. Black balance, white balance adjustment 38
  11-1. Black balance adjustment 39
  11-2. White balance adjustment 40
12. Inspecting the Camera's Basic Function 41
13. Shooting 42
14. Gen-lock Settings 44
15. Connector Signals 45
16. Optional Accessories 47
  16-1. Remote Control Unit AQ-RC50 ... 47
  16-2. Extension Control Unit AQ-EC1 .. 48
  16-3. Camera Adaptor AQ-CA1 49
  16-4. Multi-Core Camera Adaptor AQ-CA50 53
  16-5. Fiber Optic Camera Adaptor AQ-CA55 59

1. General

The Panasonic AQ-11D/20D is a triple-CCD colour video camera featuring the latest IT (AQ-11D)/ FIT (AQ-20D)-type CCDs with 480,000 pixel and on-chip lens. By replacing the signal processing sections which always used to be configured by analog circuitry in the past with digital circuitry, it has been possible to reduce this high-performance camera's overall size and weight while at the same time enhancing its picture quality, stability and system features.
The AQ-11D/20D can be used as an integrated camera/VTR assembly when combined with the AU-400/410 camera recorder, and it can also be used as a discrete camera when connected to the AQ-CA1/CA3 camera adaptor (optional accessory). Attaching the AQ-EC1 extension control unit (optional accessory) enables the camera to be controlled easily.
Connecting the camera to the AQ-CA50 multi-core camera adaptor (optional accessory) and AQ-RC50 remote control unit (optional accessory) turns it into a full-fledged multi-core extension system while an opto-digital transmission system can be put together by further connecting the AQ-CA55 Fiber Optic Camera Adaptor, AQ-BS200 Base Station (option) and AQ-RC200 Remote Operation Panel (option) to enable the same kind of operation that the AQ-225 Studio Camera can perform.

Remark:
This apparatus was produced to BS 800.
Dieses Modell entspricht der EG-Vorschrift (für Funkstörungsschutz) 87/ 308/ EWG.
La Société PANASONIC-FRANCE, importateur du matériel MATSUSHITA-JAPON déclare que cet appareil est conforme aux prescriptions de la directive 76/ 889/ C.E.E. modifiée par la directive 87/ 308/ C.E.E.
Dit model is onderworpen aan de EEG-richtlijn (ter voorkoming van radio-interferentie) 87/ 308/ EEG.
Denne model opfylder EF direktiv 87/ 308/ EF (for forebyggelse af radiointerferens).
La Società PANASONIC ITALIA S.p.A., importatrice di questo prodotto, dichiara che questo apparecchio è conforme alle disposizioni della direttiva C.E.E./ 87/ 308 (D.M. 13. 4. 1989).
Este modelo cumple con la norma EC (para interferencias de radio 87/ 308/ EEC).

CAUTION: To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

WARNING:
To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.

Caution for AQ-CA55
Use of control or adjustment or performance of procedure other than those specified herein may result in hazardous radiation exposure.

▨ is the safety information.

2. Features

IT (AQ-11D)/FIT (AQ-20D)-type CCDs with 480,000 pixel

- With their resolution of more than 750 lines and their modulation at 5 MHz (400 lines) of more than 55%, these CCDs give the camera a performance which is on a par with 1-inch pick-up tube camera.
- Under 2000 lux standard sensitivity lux f/8.0 conditions, the CCDs yield a higher sensitivity than for 2/3-inch CCD cameras.
- The incorporation of the IT (AQ-11D)/FIT (AQ-20D)-type CCDs greatly reduces smear.
- Flare, which is inherent to charge-coupled devices, is drastically reduced by introducing effective countermeasures.

High-accuracy adhesion of CCD to spectral-diffracting prism

- The registration accuracy is less than 0.05% over the total surface.
- For all essential purposes, shifts in the registration are imperceptible even with changes in the temperature.

Digital technology in signal processing areas

- This feature means that there is hardly any deterioration in the characteristics due to temperature or aging.
- Minimal differences between the R, G and B channels make it possible to attain a high resolution.

Microcomputer-based user settings

A microcomputer is used to control all the user settings. This enables the number of controls to be slashed and no deviation in the settings due to a defective contact or shock, which is always a problem with controls. It also makes it possible to exercise remote control over those user setting.

Control of user settings by numerical values

Additional features without broad-based price increase

Resolution compensation both in the high-saturation areas and also in the dark areas, cross colour reduction, and shading compensation can be provided at the flip of a switch.

Other features

- User settings displayed on viewfinder
- Built-in electronic shutter
- High-resolution 1.5-inch viewfinder (option)
- Built-in BBC colour bar generator.

3. Specifications

Camera Unit

Power Supply:	12V DC(10.8 to 17V)
Power Consumption:	AQ-11D; 12 W AQ-20D; 15 W

Operating Temperature:	– 20°C to + 40°C
Storage Temperature:	– 20°C to + 55°C
Operating Humidity:	Less than 85%
Dimensions:	103(W) x 250(H) x 260(D) mm
Weight:	Approx. 2.5 kg
Pick-up Device:	AQ-11D; 2/3-inch, Interline Transfer (IT) CCD image sensor AQ-20D; 2/3-inch, Frame Interline Transfer (FIT) CCD image sensor
System:	RGB 3 CCD system
Spectral System:	f1.4 prism system (built-in quartz filter)
Sensitivity:	2000 lux (f8.0 standard, electronic shutter OFF), 89.9% reflection 2000 lux (f4.0, 1/125 shutter speed)
Minimum subject illumination:	Approx. 7.5 lux (f1.4, + 18 dB)
Electronic Shutter:	6 positions selected 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000 sec
Optical Filter:	AQ-11D; 3200°K/5600°K+ 1/4ND/5600°K /5600°K+ 1/16ND (Filter) AQ-20D; 3200/4300/5600/6300°K (CC Filter) 100%, 25%, 6.25%, Start Filter (ND Filter)
Lens Mount:	Bayonet type
Warming-up Time:	Less than 1.5 sec

Connector

Video Output:	BNC Composite 1.0Vp-p, 75 ohms, unbalanced
Monitor Output:	BNC 1.0Vp-p, 75 ohms, unbalanced
Genlock:	BNC, BB/VBS± 3.0dB
Microphone Input	XLR, 3-pins
Lens:	12-pins
ECU:	6-pins
Viewfinder:	12-pins
VTR Interface:	79-pins

Video

Sinal-to-Noise Ratio:	60 dB (typical)
Horizontal Resolution:	More than 750 lines (at centre)
Registration:	Less than 0.05% over entire screen (excluding lens)
Gain:	0/+ 9/+ 18 dB
Digital Processing Sampling Frequency:	14.5/29 MHz

Viewfinder Unit

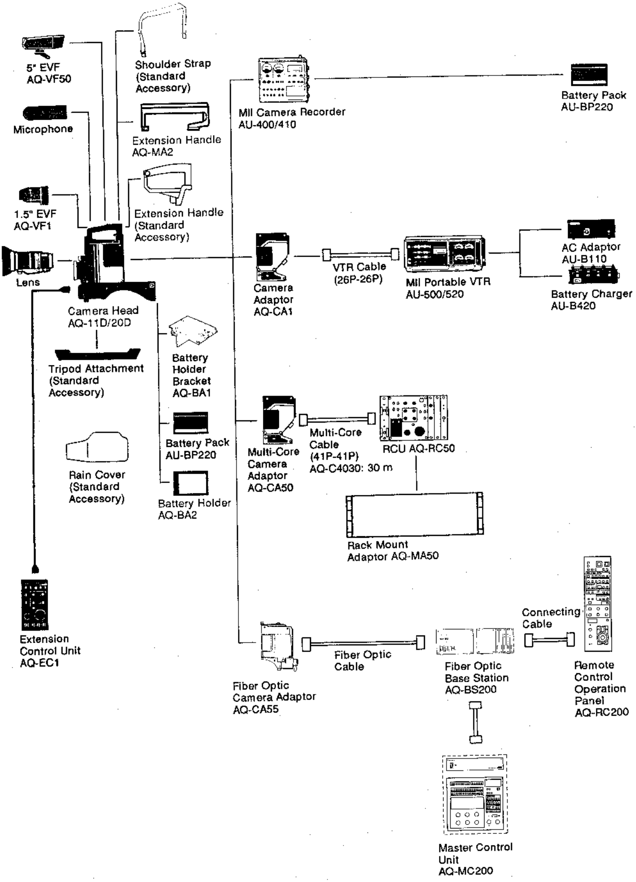
Picture Tube:	1.5-inch monochrome

Standard Accessories

- Tripod Attachment (x1)
- Extension Circuit Board (x1)
- Rain Cover (x1)
- Shoulder Strap (x1)
- Extension Handle (x1)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

4. System Configurations


5" EVF
AQ-VF50
Shoulder Strap
(Standard
Accessory)
Microphone
Extension Handle
AQ-MA2
1.5" EVF
AQ-VF1
Extension Handle
(Standard
Accessory)
Lens
Camera Head
AQ-11D/20D
Tripod Attachment
(Standard
Accessory)
Battery
Holder
Bracket
AQ-BA1
Battery Pack
AU-BP220
Rain Cover
(Standard
Accessory)
Battery Holder
AQ-BA2
Extension
Control Unit
AQ-EC1
MII Camera Recorder
AU-400/410
Battery Pack
AU-BP220
Camera
Adaptor
AQ-CA1
VTR Cable
(26P-26P)
MII Portable VTR
AU-500/520
AC Adaptor
AU-B110
Battery Charger
AU-B420
Multi-Core
Camera
Adaptor
AQ-CA50
Multi-Core
Cable
(41P-41P)
AQ-C4030: 30 m
RCU AQ-RC50
Rack Mount
Adaptor AQ-MA50
Fiber Optic
Camera Adaptor
AQ-CA55
Fiber Optic
Cable
Fiber Optic
Base Station
AQ-BS200
Connecting
Cable
Remote
Control
Operation
Panel
AQ-RC200
Master Control
Unit
AQ-MC200

5. Precautions for use

Do not subject the unit to excessively strong impacts.
This may damage the interior parts and deform the exterior.
When you have finished using the camera, switch off the power to all the components in the system.

Locations for using and storing the unit:

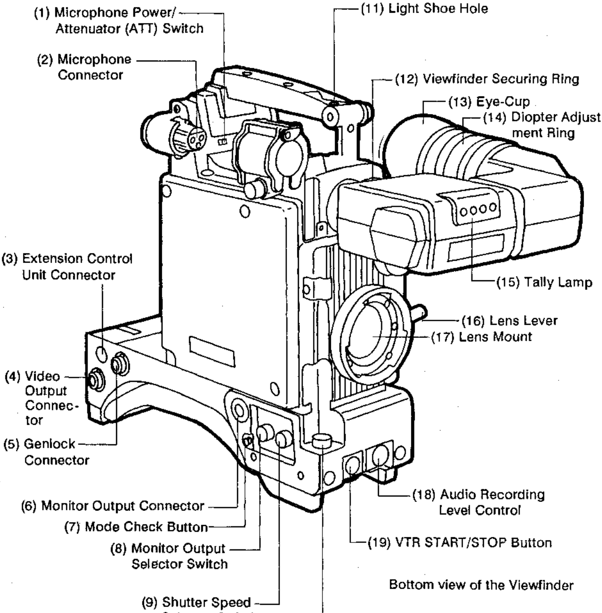
Store the unit in a level, air-conditioned environment.
Avoid use and storage in the following locations:

- Where it is extremely hot or cold
  (Usable temperature range: – 20°C to + 40°C)
- Where the unit will be exposed to strong vibration
- Where strong magnetic fields are generated
- When the unit will be exposed to direct sunlight over prolonged periods of time or located near a heating appliance
- Use in the rain without rain gear
- In the water or within reach of spray or splashes

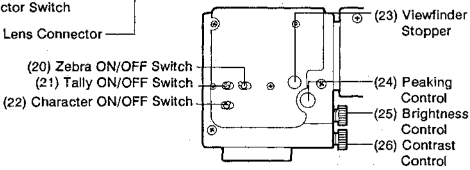
When wiping the viewfinder lens:

Use a lens cleaner which you can obtain from your dealer to wipe the viewfinder lens.
Do not use thinners and other such solvents.

6. Controls and their Functions


(1) Microphone Power/ Attenuator (ATT) Switch
(2) Microphone Connector
(3) Extension Control Unit Connector
(4) Video Output Connector
(5) Genlock Connector
(6) Monitor Output Connector
(7) Mode Check Button
(8) Monitor Output Selector Switch
(9) Shutter Speed Selector Switch
(10) Lens Connector
(11) Light Shoe Hole
(12) Viewfinder Securing Ring
(13) Eye-Cup
(14) Diopter Adjustment Ring
(15) Tally Lamp
(16) Lens Lever
(17) Lens Mount
(18) Audio Recording Level Control
(19) VTR START/STOP Button

Bottom view of the Viewfinder


(20) Zebra ON/OFF Switch
(21) Tally ON/OFF Switch
(22) Character ON/OFF Switch
(23) Viewfinder Stopper
(24) Peaking Control
(25) Brightness Control
(26) Contrast Control

(1) Microphone Power/Attenuator (ATT) Switch

This is used to turn the microphone's power ON and OFF and attenuate the output signal level.

OFF: Power is not supplied to the microphone (when using the built-in power microphone).
ON: Power is supplied to the microphone.
ON/
– 15 dB: Attenuator is activated.

- This unit can select phantom or AB as power supply system. Check the power supply system. Refer to the (40) MIC Power Selector Switch on page 13.

(2) Microphone Connector (XLR 3-pin)

Connect the microphone.

(3) Extension Control Unit Connector (6-pin)

Connect the Extension Control Unit AQ-EC1 (optional accessory) to this connector.

(4) Video Output Connector (BNC)

This connector outputs the encoder (composite) output signal.

(5) Genlock Connector (BNC)

This is used to genlock from the external equipment to the unit.

(6) Monitor Output Connector (BNC)

The video signal selected by the Monitor Output Selector is output. When the colour bar signal has been selected, it is output as the ENC Y or RGB signal.

(7) Mode Check Button

This is used to display the present statuses of the camera switches and user settings on the viewfinder.

(8) Monitor Output Selector Switch

This selector switch serves to select the signal which is output from the Monitor Output Connector.

ENC: The composite signal is output.
VF: The video signal in the viewfinder is output (however, the RET signal is not output).
R: R signal is output.
G: G signal is output.
B: B signal is output.

(9) Shutter Speed Selector Switch

This switch is used to select the desired shutter speed.
Use this switch to set the shutter speed in advance, and the shutter will be switched on when required once the Shutter ON/OFF Switch has been set to ON.
The shutter speed can be selected to 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000 sec.

(10) Lens Connector (12-pin)

The lens connecting cord is connected here. Consult your Panasonic authorized sales representative for further details on the lenses which can be used.

(11) Light Hole

The video light is attached here.

(12) Viewfinder Securing Ring

This is used when adjusting the viewfinder position. Loosen the ring, move the viewfinder to the left or right to adjust the position, and secure it by tightening up the ring.

(13) Eye-cup

The eye-cup can also be removed when you wish to see the viewfinder directly.

(14) Diopter Adjustment Ring
This is adjusted to the eyesight of the camera operator so that the picture on the viewfinder screen can be seen most clearly.

(15) Tally Lamp
This lights when the picture filmed by the camera is being recorded by the VTR. It lights and blinks in the same way as the Tally lamp inside the viewfinder.

(16) Lens Lever
Tighten up this lever to secure the lens after it has been attached to the lens mount.

(17) Lens mount (bayonet type)
Use this to attach the lens.

(18) AUDIO Recording Level Control
This control can be used to adjust the audio recording level. Perform the adjustment while watching the audio level display in the VTR.

(19) VTR START/STOP Button
Recording starts when this button is pressed; it stops when it is pressed again.

(20) Zebra ON/OFF Switch
ON: The zebra pattern is set ON.
OFF: The zebra pattern is set OFF.

(21) Tally ON/OFF Switch
ON: The tally lamp is set ON.
OFF: The tally lamp is set OFF.

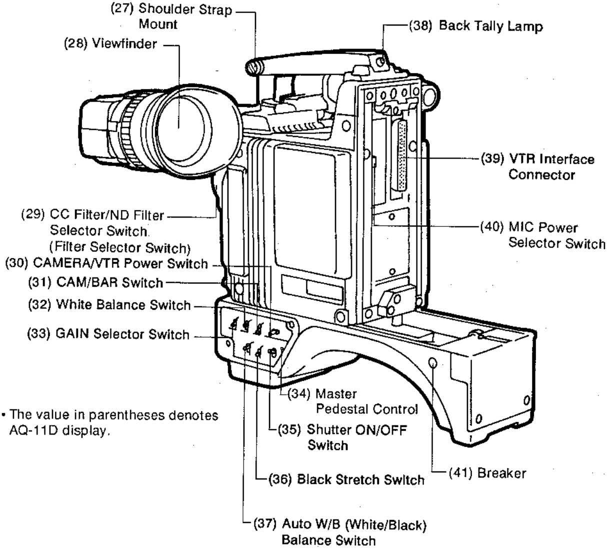
(22) Character ON/OFF Switch
This turns the information of the character display on the viewfinder ON/OFF.
ON: Character information is displayed on the viewfinder.
OFF: Character information is not displayed on the viewfinder.

(23) Viewfinder Stopper
This is used to adjust the viewfinder position.
When you want to view the finder using left eye, loosen this stopper and adjust the position moving the finder toward left or right.

(24) Peaking Control
Turn this control to sharpen the contours of the picture on the viewfinder and facilitate focusing.

(25) Brightness Control
This adjusts the brightness of the picture on the viewfinder. The brightness is increased when it is rotated clockwise.

(26) Contrast Control
This adjusts the contrast of the picture on the viewfinder.


(27) Shoulder Strap Mount
(28) Viewfinder
(38) Back Tally Lamp
(39) VTR Interface Connector
(40) MIC Power Selector Switch
(29) CC Filter/ND Filter Selector Switch. (Filter Selector Switch)
(30) CAMERA/VTR Power Switch
(31) CAM/BAR Switch
(32) White Balance Switch
(33) GAIN Selector Switch
(34) Master Pedestal Control
(35) Shutter ON/OFF Switch
(36) Black Stretch Switch
(41) Breaker
(37) Auto W/B (White/Black) Balance Switch

- The value in parentheses denotes AQ-11D display.

(27) Shoulder Strap Mount
Attach the supplied shoulder strap.

(28) Viewfinder

(29) CC Filter/ND Filter Selector Switch (Filter)
This is set to the light source which is illuminating the subject.

- **CC Filter**

Selector Position	Colour Display	Shooting Condition
A (1)	3200°K (3200°K)	Dawn/dusk, under incandescent lighting
B (2)	4300°K (5600°K+1/4ND)	Outdoors under a clear sky
C (3)	5600°K (5600°K)	Outdoors under a cloudy sky or in the rain
D (4)	6300°K (5600°K+1/16ND)	Clear and bright scenery such as snow scenes, high mountains, or sea/coastal view (Locations with a high concentration of ultra-violet rays)

- **ND Filter**

Selector Position	ND Filter
1	Through
2	1/4ND
3	1/16ND
4	Star Filter

- The values in parentheses denote AQ-11D displays.

Note:
The star filter produces a star-like image effect around a light bulb or candle flame.

(30) CAMERA/VTR Power Switch
This switches the power to the camera and VTR ON and OFF.
OFF:
Power is switched OFF both to the camera and the VTR.
CAMERA ON/VTR SAVE:
Power is supplied to the camera.
The VTR drum does not rotate and the tape is unloaded from the cylinder heads.
CAMERA ON/VTR ON:
Power is supplied to the VTR and Camera.

(31) CAM/BAR Switch
This is used to select either the colour bar signal or the video signal which is seen on the viewfinder, and is output from the Video Output Connector, VTR Connector or Monitor Output Connector.
CAM: The video signal filmed by the camera is output.
BAR: The colour bar signal is output. Set the switch to this position when making video monitor adjustments and recording the colour bar signals.

(32) WHITE BALANCE Selector Switch
PRESET: The white balance has been pre-adjusted with the filter at position A and with a colour temperature of 3200°K (light from a halogen lamp). The switch does not operate even if the AUTO W/B Balance Switch is set to AWB position.
A or B: When the AUTO B/W Balance Switch is set to AWB, the white balance is automatically adjusted, and its adjustment value is automatically stored in memory A or memory B.

(33) GAIN Selector Switch
This is set in order to increase the gain when the scene is dark, and the result will be normal video level.
0dB: Normal position
9dB: The video amplifier's gain is increased by 9 dB.
18dB: The video amplifier's gain is increased by 18 dB.

(34) Master Pedestal Control
This is used to adjust the master pedestal level.

(35) Shutter ON/OFF Switch
This sets the electronic shutter ON/OFF.
OFF: For normal use without the electronic shutter
ON: For operating the electronic shutter

For shutter speed selection with Shutter Speed Selector Switch.

(36) Black Stretch ON/OFF Switch
This is used to compensate the picture which has little different contrast in the dark portion.
ON: Picture compensation is activated in little different contrast portion.
OFF: Normal shooting position.

(37) AUTO W/B (White/Black) Balance Switch (for automatic adjustment of white balance and black balance)
AWB: The white balance is automatically adjusted. If the White Balance Selector Switch is set to A or B, the value adjusted is stored in memory A or B. Note that the switch will not function when the White Balance Switch is at the PRESET position.
ABB: The black balance level are automatically adjusted. The value adjusted is stored in the special memory.

When the switch is released, it will automatically return to the centre position.

(38) Back Tally Lamp
This lamp is the same function as the (15) Tally Lamp.

(39) VTR Interface Connector (79-pin)
This connector is for connection to the camera connector on the MII VTR, AQ-CA1/CA3 Camera Adaptor, AQ-CA50 Multi-Core Camera Adaptor or AQ-CA55 Fiber Optic Camera Adaptor.

(40) MIC Power Selector Switch
12 V AB: For supplying power to an unbalanced type of microphone.
12 V PHANTOM: For supplying + 12 V power to a balanced type of microphone.
48 V PHANTOM: For supplying + 48 V power to a balanced type of microphone.

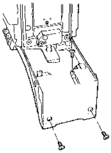
(41) Breaker
This is the camera's power supply circuit breaker. This breaker will open if there is excessive flow of electric current to prevent the unit from being damaged. To reset the breaker again, press this breaker.

7. Camera System Connections and Assembly

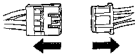
7-1. Assembly as a single VTR/Camera Integrated Unit

7-1-1. Battery Holder Assembly (option)

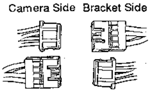
1. Remove the bracket fitting plate from the mount as shown.



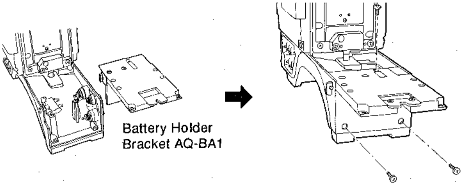
2. Disconnect the lead wires connector.



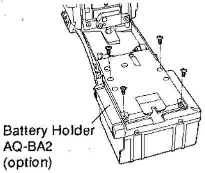
3. Connect the lead wire connectors in the bracket to the camera connectors.

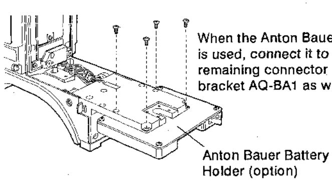

Camera Side
Bracket Side

4. Attach the Battery Holder Bracket AQ-BA1 (option) to the mount.


Battery Holder
Bracket AQ-BA1

5. Attach the Battery Holder (option) to the battery holder bracket.


Battery Holder
AQ-BA2
(option)

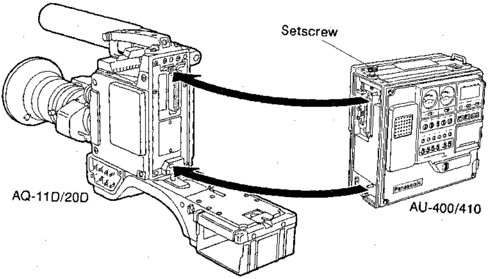

Anton Bauer Battery
Holder (option)

When the Anton Bauer battery is used, connect it to the remaining connector on the bracket AQ-BA1 as well.

When removing the battery holder, proceed by reversing the procedure as shown above.

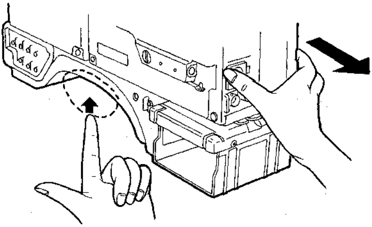
7-1-2. Assembly of the Camera and VTR

(1) Attach the Camera to the VTR.
(2) Secure the camera and VTR with the setscrew.



Removing the VTR from the camera

(1) Untighten the setscrew.
(2) Push up the Red Button on the camera as illustrated, and pull it out as shown while pressing the Red Button.

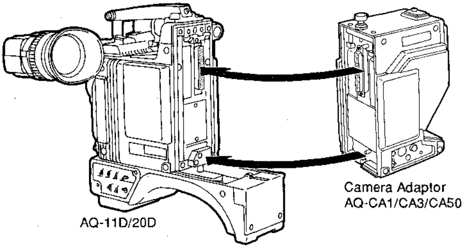


7-2. Connections when VTR and Camera are used separately

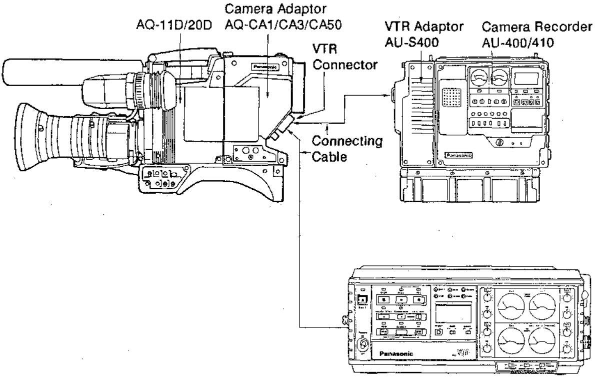
Apart from its being used in combination with the AU-400/410 as a camera/VTR integrated unit, this camera can be used separately in the following ways.

7-2-1. Assembly of Camera Adaptor AQ-CA1/CA3 or Multi-Core Camera Adaptor AQ-CA50

When the Camera Adaptor AQ-CA1/CA3 or Multi-Core Camera Adaptor AQ-CA50 is connected


Camera Adaptor
AQ-CA1/CA3/CA50
AQ-11D/20D

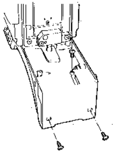
When disconnecting the camera adaptor, follow the same way as described on page 15.


Camera Adaptor
AQ-11D/20D
AQ-CA1/CA3/CA50
VTR
Connector
VTR Adaptor
AU-S400
Camera Recorder
AU-400/410
Connecting
Cable

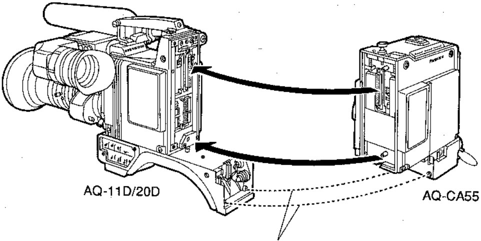
Portable VTR AU-500/520

7-2-2. Assembly of Fiber Optic Camera Adaptor AQ-CA55

1. Remove the bracket from the mounts, as shown in the figure.

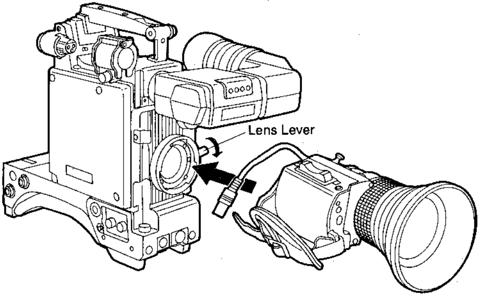


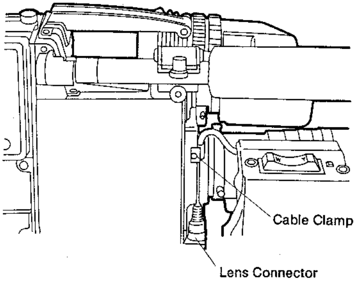
2. Install the AQ-CA55 Fiber Optic Adaptor (option) onto the mount.


AQ-11D/20D
AQ-CA55
Attach using the screws.

7-3. Lens Mounting

(1) Align the positions and fit together.
(2) Secure properly with the lever.
(3) Secure the cord using the cable clamp.
(4) Connect the cord to the Lens Connector.



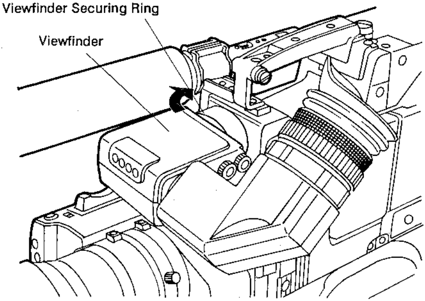

Cable Clamp
Lens Connector

For details on handling the lens, reference should be made to the Instructions which accompany the lens.

- Be sure that the lens-cup should be attached to prevent the lens from damage.

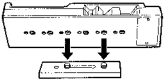
7-4. Viewfinder Attachment

(1) Align the white mark on the viewfinder with the red mark on the unit, and insert the viewfinder into the unit.
(2) Secure the viewfinder by rotating the Viewfinder Securing Ring.

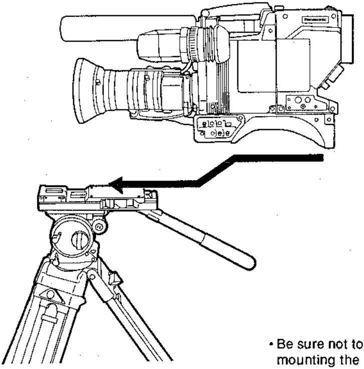

Viewfinder Securing Ring
Viewfinder

7-5. Tripod Attachment Mounting

(1) Mount the tripod attachment onto the tripod.
Mount the attachment at the desired position where there is a hole with a diameter matching that of the tripod screw.



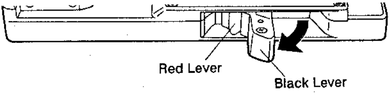
(2) Mount the camera onto the tripod attachment.
Slide the camera forward along the groove until it clicks into place.



- Be sure not to loose the balance when mounting the intergrated VTR/Camera unit or camera/adaptor unit.

Removal from Tripod Attachment

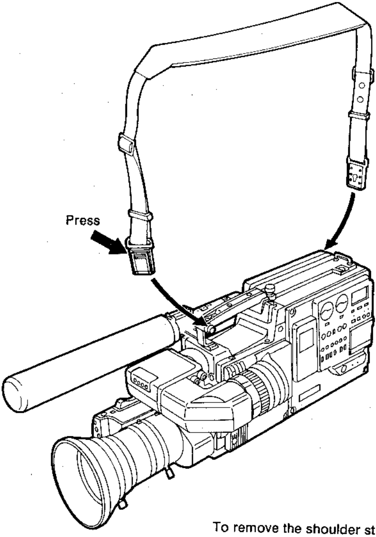
Press the and hold Red Lever and move the Black Lever in the direction shown by the arrow.



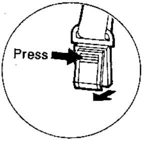
CAUTION:

If the tripod attachment pin does not return to its original position after the camera has been disengaged, press the red lever again and move the lever in the direction of the arrow to return it. The camera cannot be mounted unless the pin returns to its original position.

7-6. Attaching the Shoulder Strap



To remove the shoulder strap, open the claws.

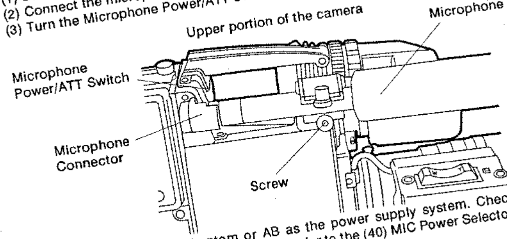


Note:
When putting on and off the shoulder strap, be sure to press the top part of the claws. Make sure that the shoulder strap is fixed to the unit.

7-7. Mounting an external Microphone

Sound can be recorded without the effects of the VTR vibration noise if an external microphone is mounted using the cradle suspension when the unit is used as part of an MII system.

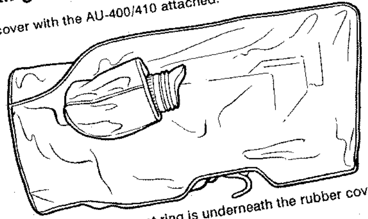
(1) Loosen the screw.
(2) Connect the microphone to the Microphone Connector and tighten the screw.
(3) Turn the Microphone Power/ATT Switch to the desired position.


Upper portion of the camera
Microphone
Microphone Power/ATT Switch
Microphone Connector
Screw

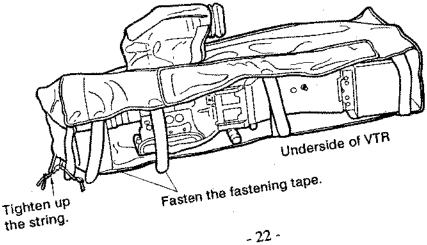
- This unit can select phantom or AB as the power supply system. Check the power supply system. To change the system setting, refer to the (40) MIC Power Selector Switch on page 13.

7-8. Mounting the Rain Cover

Mounting the cover with the AU-400/410 attached.



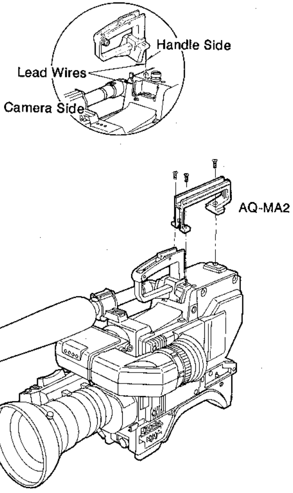
(The diopter adjustment ring is underneath the rubber cover.)


Underside of VTR
Tighten up the string.
Fasten the fastening tape.

7-9. Extension Handle Attachment

When using the Camera Adaptor AQ-CA1/CA3/CA50 or Camera Recorder AU-410, AQ-MA2 Extension Handle can be mounted as follows;

Remove the handle and attach the extension handle to the camera and the Camera Recorder. Be sure to connect the lead wires to the camera.


Handle Side
Lead Wires
Camera Side
AQ-MA2

8. Power Supply Connections

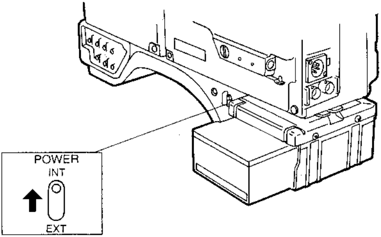
Power can be supplied to the unit from the battery pack or AC adaptor via a VTR connector (79-pin).

8-1. When mounting the VTR and supplying power from the VTR

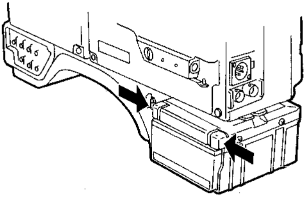
The battery pack can be used AU-BP220 or Anton Battery Pack.
Be sure that the battery packs are charged fully before using them.

8-1-1. Battery Pack AU-BP220

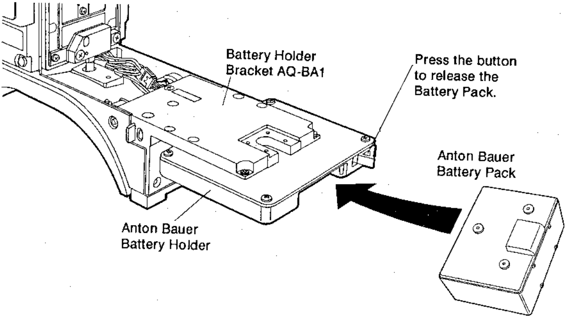
(1) Insert the battery pack until it clicks.
(2) Set the Power Switch of the Battery Holder Bracket AQ-BA1 to the INT position.
The remaining battery time can be checked in the VTR side.



When removing the battery pack
Press the Battery Release Buttons on both side as shown in the illustration, once the battery pack is unlocked it can be easily removed.

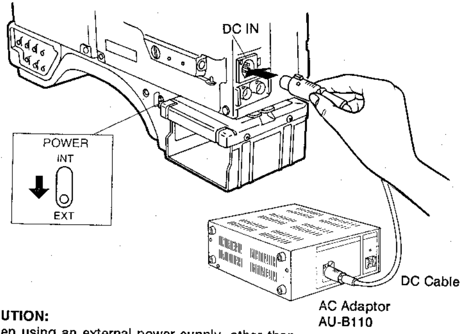


8-1-2. Anton Bauer Battery Pack


Battery Holder
Bracket AQ-BA1
Press the button to release the Battery Pack.
Anton Bauer Battery Pack
Anton Bauer Battery Holder

8-1-3. AC Adaptor AU-B110

(1) Connect the AC Adaptor AU-B110 using the DC Cable supplied with the AC Adaptor.
(2) Turn the Power Switch of the AC Adaptor ON.
(3) Set the Power Switch on the VTR to the EXT position.


DC IN
POWER
INT
EXT
DC Cable
AC Adaptor
AU-B110

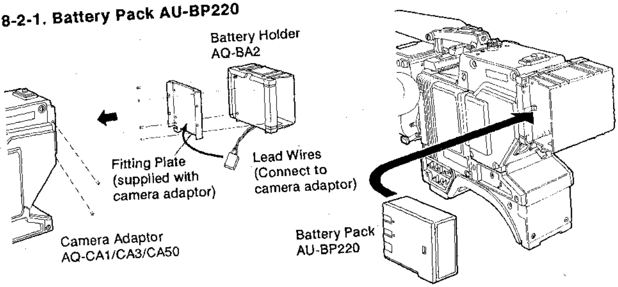
CAUTION:
When using an external power supply, other than the AU-B110, to the AU-400/410, be sure to confirm that the connections to the DC Input Connector of the AU-400/410 are as follows:

Pin No.	Signal
1	GND
2	——
3	——
4	+12V

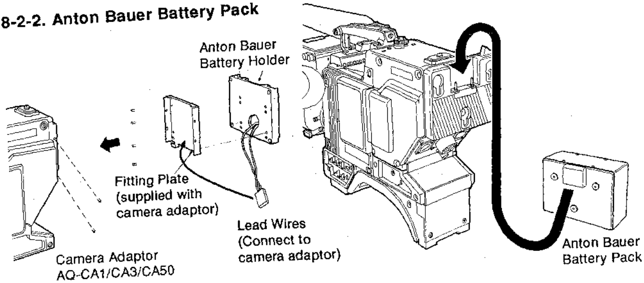
8-2. When using the camera and VTR separately

When mounting the camera adaptor and supplying power from the battery pack

8-2-1. Battery Pack AU-BP220

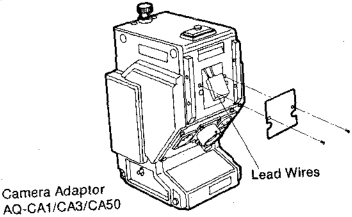

Battery Holder
AQ-BA2
Fitting Plate
(supplied with
camera adaptor)
Lead Wires
(Connect to
camera adaptor)
Camera Adaptor
AQ-CA1/CA3/CA50
Battery Pack
AU-BP220

8-2-2. Anton Bauer Battery Pack


Anton Bauer
Battery Holder
Fitting Plate
(supplied with
camera adaptor)
Lead Wires
(Connect to
camera adaptor)
Camera Adaptor
AQ-CA1/CA3/CA50
Anton Bauer
Battery Pack

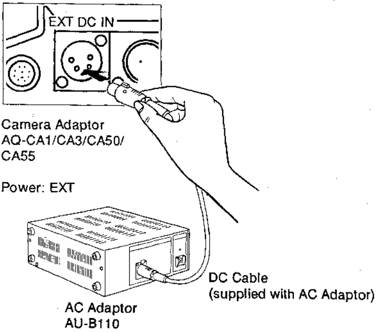
Connecting the lead wires

When mounting the battery holder to the camera adaptor, always connect the lead wires to the battery holder.


Lead Wires
Camera Adaptor
AQ-CA1/CA3/CA50

When mounting the camera adaptor and supplying power from an AC Adaptor

8-2-3. AC Adaptor AU-B110


EXT DC IN
Camera Adaptor
AQ-CA1/CA3/CA50/
CA55
Power: EXT
DC Cable
(supplied with AC Adaptor)
AC Adaptor
AU-B110

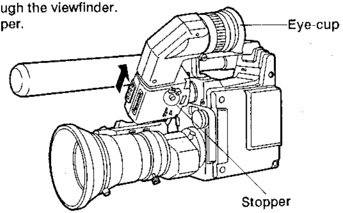
9. To Use the Viewfinder

9-1. Position adjustment

Left/Right

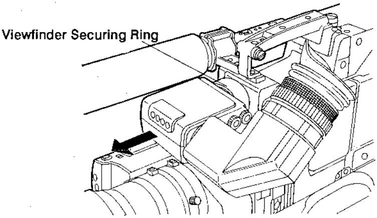
The eye-cup can be brought to a position affording ready visibility by loosening the stopper.

(1) Loosen the stopper.
(2) Move the viewfinder to the left or right, and adjust it to the position so that you can use your left eye to look through the viewfinder.
(3) Tighten up the stopper.



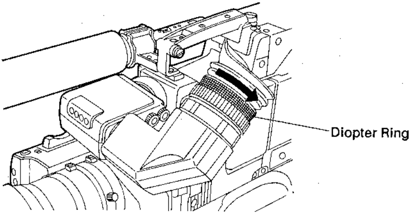
When disengaging the viewfinder from the camera

Loosen the viewfinder's set ring, and draw out the viewfinder.



9-2. Diopter adjustment

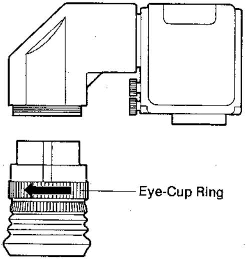
Rotate the ring and adjust it so that the picture in the viewfinder can be seen most clearly.



Removing and reassembling the eye-cup
The viewfinder screen can be viewed directly by removing the eye-cup.

Removal
(1) Rotate the eye-cup ring to the left.
(2) Draw out the eye-cup.

Reassembly
(1) Insert the eye-cup.
(2) Rotate the eye-cup ring to the right as far as it will go.



9-3. Screen adjustment

The following items for the screen can be adjusted.

ZEBRA ON/OFF switch:
Zebra pattern display ON/OFF switch.

CHARACTER ON/OFF switch:
Character display ON/OFF switch.

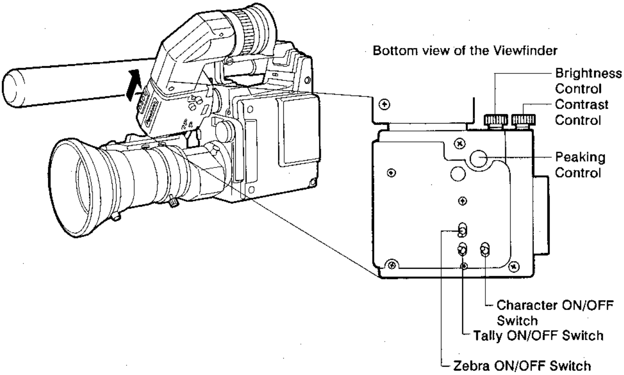
TALLY ON/OFF switch:
Front tally lamp display ON/OFF switch.

BRIGHTNESS control:
Control for adjusting the brightness of the picture inside the viewfinder.

CONTRAST control:
Control for adjusting the contrast of the picture inside the viewfinder.

PEAKING control:
Control for adjusting the peak level of the picture inside the viewfinder.

Viewfinder ANGLE stopper:
Stopper for the angle of the viewfinder.


Bottom view of the Viewfinder
Brightness Control
Contrast Control
Peaking Control
Character ON/OFF Switch
Tally ON/OFF Switch
Zebra ON/OFF Switch

9-4. Lamp displays inside viewfinder

The lamp displays at the top and bottom of the viewfinder screen and the character displays on the screen itself enable the camera settings as well as the VTR and battery statuses to be identified at a glance.

Lamp Displays:

GAIN lamp
This lights whether the GAIN switch is at the 9dB or 18 dB position in the normal mode, or the extension mode is selected in the lens. It is off at the 0 dB position.

BATT lamp
This lights when the battery voltage falls below the rating. In this case, replace with a fully charged battery pack as soon as possible.

VTR lamp
This lights to warn of a condition in the VTR.
Warnings of the following conditions occurring in the VTR are displayed.

- o Condensation
- o Sync fluctuations
- o Head clogging
- o Tape end

For details, refer to the VTR's Operating Instructions.

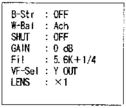
TALLY lamp
This lights while the VTR is recording.
It also lights when the tally signal from the remote control unit is supplied.

AUDIO lamp
This flashes on and off in accordance with the strength of the audio signals to indicate the audio level.

STBY lamp
This lights when the VTR is set in the power-conserving mode.

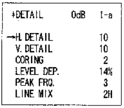
Viewfinder Displays:

Mode Check Displays
When the Mode Check Button is pressed, the characters in the following camera switch figure will appear on the screen. Press the Mode Check Button to display the user settings. (They will vanish after a certain time.) The displays indicate the camera's present settings. To view the next page, press the Mode Check Button.



```
B-Str  : OFF
W-Bal  : Ach
SHUT   : OFF
GAIN   : 0 dB
Fil    : 5.6K+1/4
VF-Sel : Y OUT
LENS   : ×1
```

⇨



```
+DETAIL      0dB   1-a

→H.DETAIL           10
 V.DETAIL           10
 CORING              2
 LEVEL DEP.        14%
 PEAK FRQ.           3
 LINE MIX           2H
```

Warning Displays:

(Warning is displayed only when the unit is used as an intergrated camera/VTR assembly.)

BATT (battery warning) display

When "BATT" coupled with the lamp display flashes on and off, it means that the battery pack voltage has fallen below the rating. In a case like this, replace with a fully charged battery pack as soon as possible.

VTR (VTR warning) display

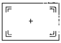
When "VTR" coupled with the lamp display flashes on and off, it means that there is a malfunction in the VTR. In a case like this, stop filming and check out the VTR.

TAPE (tape warning) display

When the MII VTR is used, the tape lights about 5 minutes before the tape end, and then the "TAPE" flashes on and off about one minute before the tape end. In a case like this, replace the tape and resume filming.

Safety Erea Didplay

When the VF MARK in the view finder display (user setting item 4) is set to ON, an area equivalent to 90% of the effective viewfinder picture and the center mark can be displayed.



Switch Displays:

(Be sure that the CHARACTER ON/OFF switch on the viewfinder is set to ON. Otherwise each switch cannot be displayed except AUTO W/B BALANCE switch.)

CC filter/ND filter selector switch

- When this has been set to the CC filter, the colour temperature corresponding to the filter is displayed. (Example: 6.3K°K)
- When this has been set to the ND filter, the ND number corresponding to the filter is displayed. [Example: 1/4 (25%)]

GAIN selector switch

When this switch has been set, the selected gain position is displayed. (Example: + 9dB)

WHITE BALANCE selector switch

When this switch has been set, the selected white balance position is displayed. (Example: A ch)

AUTO W/B (WHITE/BLACK) BALANCE switch

When set to ABB, the following displays appear:

During operation	ABB:ACTIVE
When completed	ABB:OK
When control range is exceeded	ABB:NG

When set to AWB, the following displays appear:

During operation	AWB:ACTIVE
When completed	AWB:OK
When control range is exceeded	AWB:NG

SHUTTER switch

When this switch is set to ON, the selected shutter speed is displayed. (Example: SHUT: 1/1000)

B. STRETCH switch

When this switch is set to ON, "B-Str: ON" is displayed; when it is set to OFF, "B-Str: OFF" is displayed.

SHUTTER SPEED selector switch

If the SHUTTER switch is set to ON after the SHUTTER SPEED switch has selected the desired speed (example: 1/1000), "SHUT: 1/1000" is displayed.

MONITOR OUT selector switch

Use this switch to select the signal to be monitored. If, for instance, blue signal is selected, "VF-Sel: B ch" is displayed.

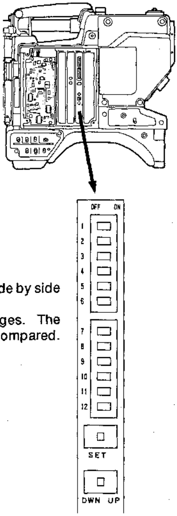
NOTE: The character information is cleared from the display in about 3 seconds after each switch operation.

9-5. User Settings

The user settings can be used to set up the camera adjusting mode including the iris, masking, flare, shading or detail etc.

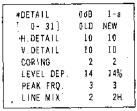
9-5-1. User Setting Method

Remove the camera's side panel where the power switch is located (on the right when seen from the lens). DIP switches will be visible on the SYNC printed circuit board.



Operation

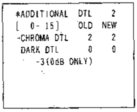
(1) Set the switch 12 to OFF.
The items of page 1 appear on the viewfinder display.



```
*DETAIL        0dB   1-a
[  0- 31]      OLD   NEW
·H.DETAIL       10    10
 V.DETAIL       10    10
 CORING          2     2
 LEVEL DEP.     14    14%
 PEAK FRQ.       3     3
 LINE MIX        2    2H
```

- Both the OLD and NEW values (same figures) are displayed side by side for the items.
- When a new value is set, the figure in the NEW item changes. The previous setting (OLD) enables the old and new values to be compared.

(2) Set the SET switch to the right to change the page.
Every time it is pressed, the page will change once.



```
*ADDITIONAL   DTL     2
[  0- 15]     OLD   NEW
-CHROMA DTL     2     2
 DARK DTL       0     0
     -3(0dB ONLY)
```

(3) When changing the items, only those items indicated by the arrow can be set. Set the SET switch to the left once to move down the arrow by one line.

(4) Use the UP and DOWN switches to change the values.
The values are increased with the UP switch and reduced with the DOWN switch.

NOTE:
To return from the user setting value to the factory set value, first switch off the power, hold down the UP/DOWN switch to the UP position and then switch the power ON.

Switches 1 to 12

Switch	Function
Switch 1 (White Shading)	This is for compensating the white shading. If it is set OFF, "---" appears as the NEW value of the item, and no change can be made. Keep the factory set level as far as possible since a subject with an extremely uniform brightness is required for changing of white shading.
Switch 2 (Black Shading)	This is for compensating the black shading. If it is set OFF, "---" appears as the NEW value of the item, and no change can be made. To make a change, select a shading on page 7, and set the shading to the BLACK position. Then set switch 2 to ON and keep the AUTO W/B Balance Switch to ABB for one time. The change will be completed within several dozen seconds.
Switch 3 (Gamma)	Gamma compensation switch. When set to OFF, the gamma will be equivalent to 1. Use this for modulation measurements.
Switch 4 (TEST)	Test signal switch. If it is set to OFF, the test signal is selected. Use it for the camera adjustments.
Switch 5 (Masking)	Masking compensation switch. If it is set to OFF, the masking compensation is reduced to zero.
Switch 6 (Y-DTL)	Detail compensation switch. If it is set OFF, the detail compensation is reduced to zero.
Switch 7 (2D Filter)	2D low-pass filter ON/OFF switch for reducing the cross colour.
Switch 8 (C-DTL)	ON/OFF switch for high-range compensation in the high-saturation areas.
Switch 9 (Flare)	ON/OFF switch for flare compensation.
Switch 10 (Auto Knee)	Auto knee switch. When it is set OFF, the knee is fixed.
Switch 11 (White Clip)	ON/OFF switch for white clip.
Switch 12 (User Set)	User setting switch. When it is set OFF, the settings made until now are stored in the memory and there is no further change.

9-5-2. User Setting Items

The setting items are shown below.
Page can be changed to next by pressing the Mode Check Button.

The arrow indicates the item to be selected. However, bear in mind that setting is not possible when the "NEW" display is "- - -".

Detail Settings

```
*DETAIL        0dB   1-a
[  0- 31]      OLD   NEW
→H.DETAIL       10    10
 V.DETAIL       10    10
 CORING          2     2
 LEVEL DEP.     14   14%
 PEAK FRQ.       3     3
 LINE MIX        2    2H
```

Detail Settings
H. DETAIL: Y signal horizontal Detail (0, 9, 18).
V. DETAIL: Y signal vertical Detail (0, 9, 18).
CORING: For slicing Y signal detail level (0, 9, 18).
LEVEL DEP.: For removing the detail in Y signal dark areas.
PEAK FRQ.: Y signal detail peak frequency setting.
LINE MIX: Line setting for creating Y signal detail; Normally use at the 2H position. Video signal with minimal noise can be obtained.
Notes:

- The facory set value is recommended for H.DETAIL setting. When the VTR is recorded or played back at a high level, a bearing phenomenon may occur.
- Detail settings will be changed to 1-a, 1-b or 1-c display depending on each 0, 9 or 18 dB level.

ADD. Detail settings

```
*ADDITIONAL  DTL     2
[  0- 15]    OLD   NEW
→CHROMA DTL    2     2
 DARK DTL      0     0
    (-3/0dB ONLY)
```

Additional Detail settings
CHROMA DTL: Detail emphasis in the high saturation areas.
DARK DTL: Detail emphasis in dark areas; only when – 3 or 0 dB has been selected.
Note:
The – 3 dB position cannot be set when only the camera is used.

Level Settings (White level setting)

```
*LEVEL                  3
[.35-.55]      OLD   NEW
→SET-UP        0.0   0.0%
 KNEE SLOPE     17    17
 KNEE POINT     90    90%
 WHITE CLIP    105   105%
 IRIS LEVEL     55    55
 PEAK RATIO     40    40%
```

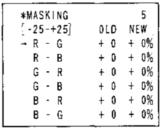
Level Settings
SET-UP: Setup pedestal adjustment.
KNEE SLOPE: Knee curve setting. (This can be set when switch 10 (AUTO KNEE) on page 34 is OFF. When the switch is ON, "---" appears on the display and the setting cannot be performed.)
KNEE POINT: Setting for point where white level is compressed.
WHITE CLIP: White clip level setting.
IRIS LEVEL: Auto iris level setting.
PEAK RATIO: Auto iris control is exercised by a combination of average value and peak value controls. Set the combination ratio for peak value control here. In the example given on the left, the ratio is 40% for peak value control and 60% for average value control.

EVF (Electric Viewfinder) Display

```
*EVF DISPLAY            4
[   -   ]      OLD   NEW
→EVF MARK             ON
 ZEBRA-1        80    80%
 ZEBRA-2       105   105%
```

EVF (Electric Viewfinder) Display
EVF MARK: Selection of frame display to be shot.
ZEBRA-1: Setting of lower zebra level overlaid on Y signal.
ZEBRA-2: Setting of higher zebra level overlaid on Y signal.

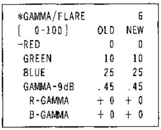
Masking



```
*MASKING           5
[-25-+25]    OLD  NEW
→R - G       + 0  + 0%
 R - B       + 0  + 0%
 G - R       + 0  + 0%
 G - B       + 0  + 0%
 B - R       + 0  + 0%
 B - G       + 0  + 0%
```

Masking Adjustment
MASKING: Masking.
Colour compensation for colour reproduction; in the form of addition to, or subtraction from R/G/B signals.
Use for colour matching between cameras.

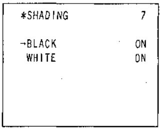
Flare



```
*GAMMA/FLARE        6
[  0-100]    OLD  NEW
→RED          0    0
 GREEN        10   10
 BLUE         25   25
 GAMMA-9dB   .45  .45
  R-GAMMA    + 0  + 0
  B-GAMMA    + 0  + 0
```

Gamma/Flare Adjustment
FLARE: Flare compensation.
Compensation for fluctuations in black level of R/G/B signals.
GAMMA: Gamma curve setting (with 0, + 9 or + 18 dB setting).
Note:
Use the factory set flare compensation level as far as possible.

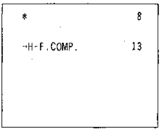
Shading



```
*SHADING            7

→BLACK             ON
 WHITE             ON
```

Shading
SHADING: Shading compensation.
BLACK: Shading compensation for black level.
WHITE: Shading compensation for white level.

Notes:
- Shading should also be adjusted when the lens is used in the EXTENSION mode. Each shading value can be memorized both in the normal and in the extension modes of the lens.
- Keep the factory set level as far as possible since a subject with an extremely uniform brightness is required for white shading compensation.

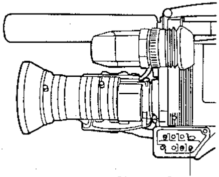


```
*                   8

→H-F.COMP.         13
```

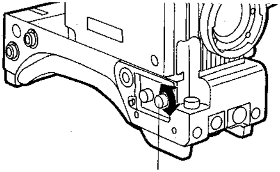
H-F COM: Compensation of frequency response in the high range.

NOTE:
To return from the user setting value to the factory set value, refer to NOTE for the user settings on page 33.

10. Shutter Speed



Shutter ON/OFF Switch:ON



Shutter Speed
Selector Switch

To change the shutter speed
Set the Shutter Speed Selector Switch to the desired position.
There are 6 shutter speed steps.
1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000 sec.

Display example: 1/250 (This remains displayed for approx. 3 seconds.)

To display the present shutter speed
Set the SHUTTER switch from OFF to ON.
Present shutter mode is indicated for approx. 3 seconds (with VF CHART SW ON).

Display example: SHUT: 1/100

CAUTIONS:

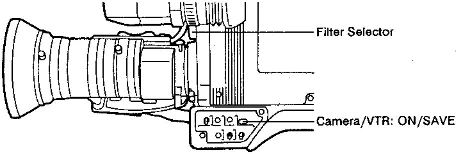
- As the shutter speed increases, both the iris aperture and depth of focus increase.
- When the shutter is used with illumination from fluorescent lights or mercury lamps, bear in mind that the colour may change at frequencies where there is a difference between the power line frequency and the vertical sync frequency of the camera.
- Flicker may be a noticeable problem when shooting with the shutter OFF. In cases like this, it will be reduced by setting the shutter speed to 1/100.

11. Black Balance, White Balance Adjustment

The black balance needs to be adjusted only in the following cases.
- When the unit is used for the first time or when it is used after it has not been used for a prolonged period.
- When the unit is used in an environment where the ambient temperature has changed greatly.

Even when the unit's power is off, it does not need to be re-adjusted. The previous adjustment value will be retained in the memory.
Adjust only the white balance when the colour temperature of the lighting has changed.

Preparations
(1) Set the Filter Switch as required by the lighting conditions.
(2) Set the switches as shown.



(3) If the lens has a manually adjustable iris, set it to the proper value.
Remember that it may not be possible to proceed with the adjustments unless the iris is set properly.
If the lens has an automatic iris mechanism, set the iris auto/manual selector switch on the lens to auto.
(4) Place a piece of white paper or a handkerchief at a position under the same conditions as the lighting source of the subject, and use the zoom so that the white fills the screen.
It is possible to use something white (a white cloth or white wall, etc.) near the subject instead, but the white may take on very faint traces of colour.
Shoot the white object so that it takes up at least 10% of the entire screen area centering around the screen centre, and then set the AUTO W/B Balance Selector Switch to AWB.

11-1. Black balance adjustment

Adjustment procedure
Push the AUTO W/B BALANCE switch to the ABB position.
(When the switch is released, the switch will automatically return to the centre.)
The following displays appear on the viewfinder screen during the adjustment procedure.

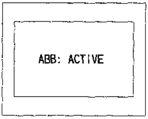


ABB: ACTIVE (now being adjusting)
ABB: OK (adjustment completed)
ABB: NG (no adjustment possible)

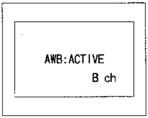
The black balance adjusted is completed in several seconds, and the value adjusted is automatically stored in the memory.

CAUTIONS:

- The light will be automatically cut off to the camera while the black balance is adjusted.
- Since the light will remain cut off even after the black balance has been adjusted when the iris is being adjusted manually, open the iris first and then begin shooting.
- When the AUTO W/B BALANCE switch is pushed to the ABB position, the GAIN selector circuit is automatically selected and flicker will appear several times on the viewfinder screen. This is normal and not indicative of a malfunction or failure.

11-2. White balance adjustment

Adjustment procedure
Push the AUTO W/B BALANCE switch to the AWB position.
The following displays appear on the viewfinder screen during the adjustment procedure.



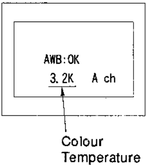
AWB: ACTIVE (now being adjusted)
AWB: OK (adjustment completed)
AWB: NG (no adjustment possible)

The white balance adjustment is completed in about 1 second, and the value adjusted is automatically stored in the memory (A or B).

CAUTION:
A phenomenon called hunting may arise when a zoom lens with an automatic iris mechanism is used. In such cases, adjust the gain control. For further details, refer to the instructions which accompany the lens.

WHITE BALANCE switch cannot be used at the PRESET position.
The white balance has already been adjusted at 3200°K. If the FILTER control is set to "A (1)", therefore, the proper white balance at 3200°K will be obtained. Proceed with the black balance adjustment only.

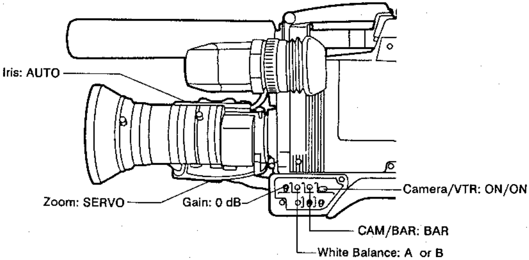
The number displayed below "AWB: OK" on the display represents the approximately colour temperature of the subject.



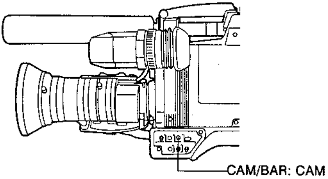
12. Inspecting the Camera's Basic Function

For details on how to operate the lens, refer to the instructions which accompany the lens.

1) Set the VTR's POWER switch to ON and set the switches as follows.



2) Adjust the position of the viewfinder.
3) Check that colour bars appear in the viewfinder, and adjust them using the Brightness Control so that they appear clearly.
4) Set the Filter Switch to A (1), B (2), C (3) and D (4) in succession. Check that as the switch is stepped through its positions, the Filter figures will be displayed inside the viewfinder.
5) Set the CAM/BAR Switch to CAM, and point the lens at a suitable subject.
Rotate the focusing ring to focus properly.
Check that a picture appears in the viewfinder.

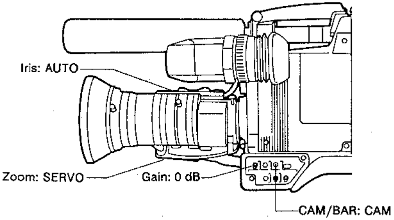


6) Set the zoom to auto and check the power zoom.
Check that the picture changes from telephoto to wide-angle.
7) Set the zoom to manual and check the manual zoom.
Rotate the manual zoom lever and check that the picture changes from telephoto to wide-angle.
8) Set the iris to auto and point the lens at a subject with a different brightness. Check that the auto iris adjustment actually works.
9) Set the iris to manual and rotate the iris ring to check the manual iris adjustment.
10) Set the iris to auto again, and set the GAIN Selector Switch to 0 dB, 9 dB and 18 dB in turn.
Check that the iris is stopped down with a subject having the same brightness.
Check that the GAIN lamp lights inside the viewfinder.
11) Set the GAIN Selector Switch to 0 dB.

13. Shooting

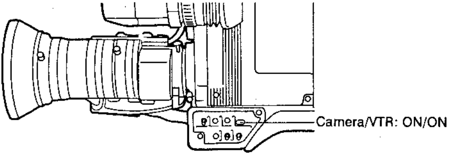
Preparations

Before proceeding with operation, set the switches to the positions shown below.



Operation procedure

(1) Switch on the power to the camera and connected units.



(2) Load a cassette into the VTR.

(3) Set the Filter Switch to the position which corresponds to the light source.

(4) Adjust the black balance and white balance.

- When the black balance and white balance values have already been stored in the memory, set the WHITE BALANCE selector switch to A or B.
- When the white balance value has not been stored in the memory and there is no time available, set the WHITE BALANCE selector switch to PRESET position, press the AUTO W/B BALANCE switch to the ABB position, and adjust the black balance. The white balance and black balance at a colour temperature of 3200°K are now adjusted if the CC Filter is set to 3200°K.

(5) Point the camera at the subject, and adjust the focus and zoom.

(6) Press the VTR START/STOP button to start recording.

(7) To stop operation, press the VTR START/STOP button again. The VTR is set to the REC/PAUSE mode and the Tally Lamp inside the viewfinder goes off.

When there is insufficient light for shooting

If the lighting is poor and inadequate for shooting, set the GAIN Selector Switch to a different position to obtain the correct video level. Normally, the GAIN Selector Switch is kept at the "0 dB" position.

Checking the video level

Zebra patterns appear on the viewfinder screen in the areas of the video level according to the Zebra 1 or 2 Mode Setting. Use these as a guideline when adjusting the lens iris manually. These patterns can be cleared using the Zebra ON/OFF Switch on the viewfinder.

14. Gen-lock Settings

Connect a black burst signal, composite signal or other external reference signal to the GEN LOCK connector. Remove the camera's side panel where the power switch is located (on the right when seen from the lens), and adjust the SCØ control, switches 1 and 2, and HØ control on the SYNC printed circuit board to match the phase of the external reference signal.

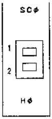
Subcarrier phase adjustment

(1) Adjust the phase roughly using switches 1 and 2.
The phase is set to 0° when switches 1 and 2 are both set to the right, to 90° when switch 1 is set to the left and switch 2 to the right, to 180° when switches 1 and 2 are both set to the left, and to 270° when switch 1 is set to the right and switch 2 to the left.
Set switches 1 and 2 to set the phase so that it is closest to the reference signal phase.

(2) Now adjust the phase finely with the SCØ control.
The SCØ control can be used to shift the phase by 90°.
Adjust it so that the phase matches the reference signal phase after previous adjustment (1).

Horizontal sync signal phase adjustment

The phase adjustment range of the HØ control is from +2.0 to −1.5μs. Adjust it so that the phase matches the reference signal phase.



15. Connector Signals

VTR Interface Connector (79-pin)

Pin No.	Signal		Pin No .	Signal	
1	ENC VIDEO OUT		41	B - Y DIGITAL	B8
2	ENC VIDEO GND		42	Y DIGITAL OUT	B1
3	R - Y DIGITAL OUT	MSB B9	43	Y DIGITAL OUT	LSB B0
4	R - Y DIGITAL OUT	B8	44	RETURN CONTROL	
5	R - Y DIGITAL OUT	B7	45	RETURN SWITCH	
6	Y/PB/PR GND		46	VTR START/STOP	
7	PR OUT		47	HD	
8	Y OUT		48	VD	
9	PB OUT		49	REMOTE ON/OFF (COMMAND)	
10	MIC COLD		50	- - -	
11	REMOTE ON/OFF (GL)		51	CFP	
12	R - Y DIGITAL OUT	B6	52	DIGITAL OUT ON/OFF	
13	CAM DATA		53	GEN LOCK IN	
14	- - -		54	B - Y DIGITAL	B7
15	R - Y DIGITAL OUT	B5	55	B - Y DIGITAL	B6
16	H - CONT		56	B - Y DIGITAL	B5
17	R - Y DIGITAL OUT	B4	57	B - Y DIGITAL	B4
18	WARNING IN		58	B - Y DIGITAL	B3
19	CAM CONT		59	B - Y DIGITAL	B2
20	R - Y DIGITAL OUT	B3	60	B - Y DIGITAL	B1
21	R - Y DIGITAL OUT	B2	61	B - Y DIGITAL	LSB B0
22	R - Y DIGITAL	B1	62	REC TALLY	
23	R - Y DIGITAL OUT	LSB B0	63	MIC HOT	
24	TAPE REMAIN		64	- - -	
25	- - -		65	A 9V	
26	V - RESET		66	A 5V	
27	Y DIGITAL OUT	MSB B9	67	A GND	
28	Y DIGITAL OUT	B8	68	A -5V	
29	Y DIGITAL OUT	B7	69	AUDIO MONITOR	
30	Y DIGITAL OUT	B6	70	VR GND	
31	Y DIGITAL OUT	B5	71	AUDIO ARM	
32	Y DIGITAL OUT	B4	72	VR CENTRE	
33	Y DIGITAL OUT	B3	73	POWER SAVE	
34	Y DIGITAL OUT	B2	74	POWER GND	
35	MIC SHIELD		75	+ 12V DC	
36	- - -		76	+ 12V DC	
37	CLK 8fsc		77	- - -	
38	RETURN VIDEO		78	+ 12V OFF	
39	RETURN VIDEO GND		79	- - -	
40	B - Y DIGITAL	MSB B9			

Lens Connector (12-pin)

Pin No.	Signal
1	RETURN SWITCH
2	VTR START/STOP SWITCH
3	GND
4	AUTO IRIS
5	IRIS CONTROL
6	+12V
7	IRIS POSITION
8	IRIS AUTO/REMOTE
9	LENS EXT
10	ZOOM POSITION
11	- - - -
12	- - - -

ECU Connector (6-pin)

Pin No.	Signal
1	REMO TX
2	REMO RX
3	- - - -
4	ECU ON
5	+12V
6	GND

16. Optional Accessories

16-1. Remote Control Unit AQ-RC50

The following remote control operations can be performed when the Multi-Core Camera Adaptor AQ-CA50 is mounted on the unit and the AQ-RC50 remote control unit is connected.
For further details on the operations, reference should be made to the Operating Instructions accompanying the AQ-RC50.

Operations possible from front panel

- Camera/Test signal selection
- Colour bar selection
- – 3/0/+ 9 dB gain selection
- Electonic shutter ON/OFF
- 2 dimensions lowpass filter ON/OFF
- Auto knee ON/OFF
- ABB/AWB setting
- PRE/A/B selection for white balance memory
- Gamma adjustment
- Detail adjustment
- R. black adjustment
- R. gain adjustment
- B. black adjustment
- B. gain adjustment

Painting

- Iris adjustment
- Iris manual/auto selection
- Master pedestal adjustment
- Microphone ON/OFF
- Intercom private/system selection
- Intercom audio level adjustment
- PGM audio level adjustment
- Call (incl. Tally)

16-2. Extension Control Unit AQ-EC1

The following remote control operations can be performed when the Extension Control Unit AQ-EC1 is connected to the unit.
For further details on the operations, reference should be made to the Operating Instructions accompanying the AQ-EC1.

Operations possible from front panel
- Camera/Test/colour bar signal selection
- – 3/0/+ 9 dB gain selection
- Shutter speed selection (1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000)
- Electonic shutter ON/OFF
- ABB/AWB setting
- PRE/A/B selection for white balance memory
- R. black adjustment
- R. gain adjustment
- B. black adjustment
- B. gain adjustment

Painting

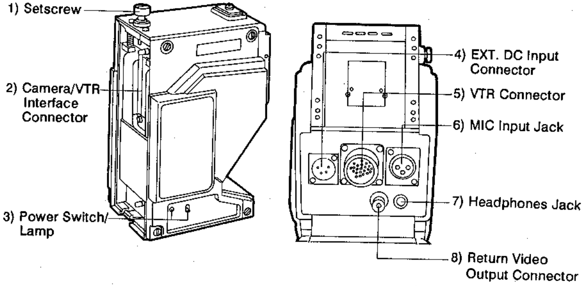
- Iris adjustment
- Iris manual/auto selection
- Master pedestal adjustment
- User setting ON/OFF
- User setting selection
- User setting control
- User setting memory

Digital user setting

16-3. Camera Adaptor AQ-CA1

This is a camera adaptor which is used to connect an optional 3-CCD digital video camera to a portable video recorder. Mounting this adaptor enables the camera to be used as a discrete unit.

Controls and their Functions


1) Setscrew
2) Camera/VTR Interface Connector
3) Power Switch/ Lamp
4) EXT. DC Input Connector
5) VTR Connector
6) MIC Input Jack
7) Headphones Jack
8) Return Video Output Connector

1) Setscrew
For fastening the unit to the camera.

2) Camera/VTR Interface Connector (79-pin)
For connection with the VTR Interface Connector on the camera.

3) Power Switch/Lamp
This is used to select the power supply.
When power is supplied, the lamp lights.
VTR: For supplying power from the VTR.
OFF: For setting the power OFF.
EXT: For supplying 12V from an external source through the EXT. DC Input Connector.

4) EXT. DC Input Connector
Supplies 12V power from the external source.
This connector is automatic changeover type with the battery pack.

5) VTR Connector
For connecting the unit to the VTR.

6) MIC Input Jack
For connecting an external microphone.

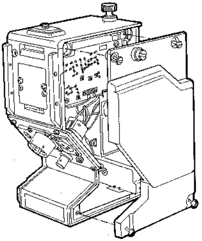
7) Headphones Jack
For monitoring the sound from the VTR.

8) Return Video Output Connector
For supplying the video signal from the VTR.

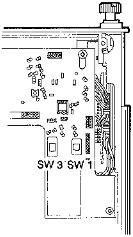
- For connecting the unit to the camera, refer to page 17.
- For connecting the unit to the battery source, refer to page 27.

Internal Switches

The Internal Switches 1 and 3 are located on the printed circuit board when the side panel is removed from the camera adaptor AQ-CA1.
Select these switches according to the microphone to be used.



Camera Adaptor
AQ-CA1



The functions of the switches 1 and 3 are as follows;

Switch	Name	Functions
SW 1	Microphone Input Selector Switch	INT: To use the microphone of the video camera. EXT: To use the microphone of the camera adaptor.
SW 3	Microphone Power Selector Switch	48V: To supply the 48 V power to microphone. OFF: Not to supply the power to microphone.

Connector Signal

79-pin Interface Connector

Pin No.	Signal	Pin No.	Signal
1	ENC VIDEO IN	45	RETURN SWITCH IN
2	ENC VIDEO GND	46	VTR START/STOP IN
3 - 5	- - - -	47 - 49	- - - -
6	VIDEO GND	50	COMPOSITE SYNC IN
7	PR IN	51 - 61	- - - -
8	Y IN	62	REC TALLY OUT
9	PB IN	63	MIC(H) IN
10	MIC (C) IN	64	- - - -
11 - 17	- - - -	65	+9V IN
18	WARNING OUT	66	+5V IN
19 - 23	- - - -	67	POWER GND
24	TAPE REMAIN OUT	68	−5V IN
25	PAL PULSE IN	69 - 72	- - - -
26 - 34	- - - -	73	VTR SAVE IN
35	MIC GND	74	POWER GND
36 - 37	- - - -	75	+12V OUT
38	RETURN VIDEO OUT	76	+12V IN
39	RETURN VIDEO GND	77	- - - -
40 - 43	- - - -	78	+12V OFF IN
44	RETURN CONTROL OUT	79	- - - -

VTR Connector

Pin No.	Signal	Pin No.	Signal
1	ENC VIDEO OUT	14	- - - -
2	ENC VIDEO GND	15	REC/TALLY/WARNING IN
3	Y GND	16	- - - -
4	Y OUT	17	SHILED
5	PR OUT	18	RETURN VIDEO IN
6	PR GND	19	RETURN VIDEO GND
7	PB OUT	20	VTR SAVE/AUDIO MON.
8	PB GND	21	- - - -
9	MIC (H) OUT	22	COLOUR FRAME OUT
10	MIC (C) OUT	23	- - - -
11	MIC GND	24	- - - -
12	VTR START/STOP OUT	A	+ 12V
13	- - - -	B	GND

EXT. DC Input Connector

Pin No.	Signal
1	DC IN (–)
2	- - - -
3	- - - -
4	DC IN (+)

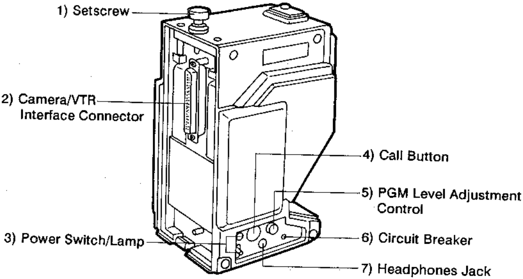
MIC Input Connector

Pin No.	Signal
1	SHIELD
2	MIC (H)
3	MIC (C)

16-4. Multi-Core Camera Adaptor AQ-CA50

By connecting a Multi-Core Camera Adaptor AQ-CA50, the video camera can be connected to the separate portable VTR. Also, a multi-core remote control system can be configured by connecting an optional Remote Control Unit AQ-RC50 to the Multi-Core Camera Adaptor AQ-CA50, enabling the camera to be remote-controlled from a distance of up to about 300 m.

Controls and their Functions


1) Setscrew
2) Camera/VTR Interface Connector
3) Power Switch/Lamp
4) Call Button
5) PGM Level Adjustment Control
6) Circuit Breaker
7) Headphones Jack

1) Setscrew
For fastening the unit to the camera.

2) Camera/VTR Interface Connector (79-pin)
For connection with the VTR Interface Connector on the camera.

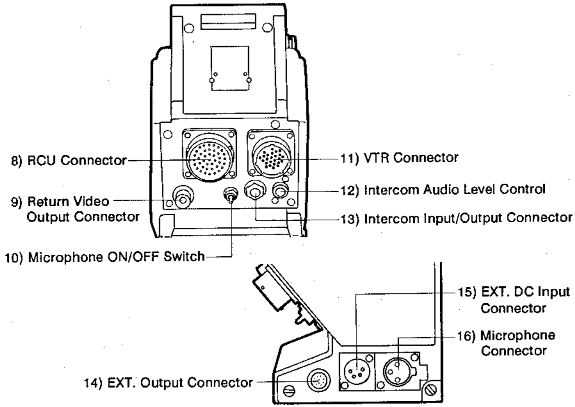
3) Power Switch/Lamp
This is used to select the power supply.
When power is supplied, the lamp lights.
RCU: For supplying power from the Remote Control Unit AQ-RC50.
VTR: For supplying power from the VTR.
EXT: For supplying 12V from an external source through the EXT. DC Input Connector.

4) Call Button
By pressing this button, the Tally/Call Lamp on the Remote Control Unit AQ-RC50 will light.

5) PGM (Programme) Level Adjustment Control
This control is used to adjust the programme audio level.

6) Circuit Breaker
This breaker will open if there is excessive flow of electric current to prevent the unit from being damaged. To reset the breaker again, press this breaker.

7) Headphones Jack
This jack is used to monitor the intercom audio.


8) RCU Connector
9) Return Video Output Connector
10) Microphone ON/OFF Switch
11) VTR Connector
12) Intercom Audio Level Control
13) Intercom Input/Output Connector
14) EXT. Output Connector
15) EXT. DC Input Connector
16) Microphone Connector

8) RCU Connector
This connector is used to connect the camera adaptor to the another Remote Control Unit AQ-RC50.

9) Return Video Output Connector
This connector is used to output video signal from a VTR or Remote Control Unit AQ-RC50.

10) Microphone ON/OFF Switch
This switch is used to turn the intercom microphone ON and OFF.

11) VTR Connector
For connecting the unit to the VTR.

12) Intercom Audio Level Control
This control is used to adjust the intercom headphone audio level.

13) Intercom Input/Output Connector
This connector is used to connect the camera adaptor to the AQ-RC50 intercom Connector.

14) EXT. Output Connector
This connector is used to input or output the RETURN VIDEO, INTERCOM, TALLY and +12 V signals.

15) EXT. DC Input Connector
Supplies 12V power from the external source.
This connector is automatic changeover type with the battery pack.

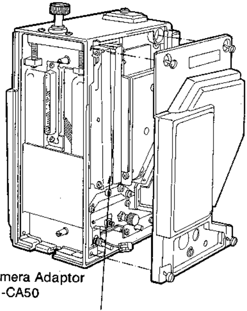
16) MIC Input Jack
For connecting an external microphone.

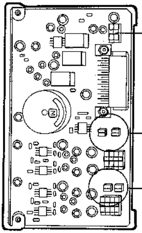
- For connecting the unit to the camera, refer to page 17.
- For connecting the unit to the battery source, refer to page 27.

- When configuring a multi-core system, use an AQ-RC50 model whose with serial number is **TQB0073 or a number after this. If you use an AQ-RC50 with an earlier serial number, please consult with your dealer.

Internal Switches

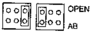
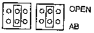
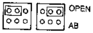
The Internal Switches are located on the printed circuit board IF 1 when the side panel is removed from the camera adaptor AQ-CA50.





Printed Circuit Board IF 1

The functions of the switches are as follows;

Switch	Name	Functions
SW9/10	Intercom Selector Switch	CM: To use carbon type intercom. DM: To use dynamic type intercom.
EL 1 to EL 4	Camera Microphone Power Supply Switch	These switches are for supplying the power to the phantom microphone using the combination of two jumping switches. ● EL 1/2 are for MIC 1 (camera microphone). ● EL 3/4 are for MIC 2 (external microphone of the AQ-CA50).  : To supply the +48V power to balanced microphone. (+48V PHANTOM side)  : To supply the +12V power to balanced microphone. (+12V PHANTOM side)  : No power supply to microphone. (OPEN side)

Connector Signals

79-pin Interface Connector

Pin No.	Signal	Pin No.	Signal
1	ENC VIDEO IN	40 - 43	- - - -
2	ENC VIDEO GND	44	RETURN CONTROL OUT
3 - 5	- - - -	45	RETURN SWITCH IN
6	VIDEO GND	46	VTR START/STOP IN
7	PR IN	47 - 49	- - - -
8	Y IN	50	COMPOSITE SYNC IN
9	PB IN	51 - 61	- - - -
10	MIC (C) IN	62	REC TALLY OUT
11	REMOTE	63	MIC(H) IN
12	CAM DATA GND	64	- - - -
13	CAM DATA IN	65	+9V IN
14 - 15	- - - -	66	+5V IN
16	H CONTROL OUT	67	POWER GND
17	- - - -	68	−5V IN
18	WARNING OUT	69	AUDIO MONITOR OUT
19	CAM CONTROL OUT	70 - 72	- - - -
20 - 24	- - - -	73	VTR SAVE IN
25	PAL PULSE IN	74	POWER GND
26	V RESET OUT	75	+12V OUT
27 - 34	- - - -	76	+12V IN
35	MIC GND	77	- - - -
36 - 37	- - - -	78	+12V OFF IN
38	RETURN VIDEO OUT	79	- - - -
39	RETURN VIDEO GND		

RCU Connector

Pin No.	Signal	Pin No.	Signal
A	CABLE GND	Y	POWER SENSE (+)
B - C	- - - -	Z	PR OUT
D	PR GND	a	PGM (H)
E	- - - -	b	PGM (C)
F	PGM GND	c	RETURN VIDEO IN
G	- - - -	d	MIC 1 (H)
H	RETURN VIDEO GND	e	MIC 2 (C)
J	- - - -	f	INCOM TALK (H)
K	MIC 1 (C)	g	INCOM RECEIVE (H)
L	MIC 1 GND	h	POWER (−)
M	TALLY	i	Y OUT
N	MIC 2 (H)	j	PB OUT
P	MIC 2 GND	k	COMMAND
R	INCOM RECEIVE (C)	m	POWER (+)
S	INCOM GND	N	POWER (+)
T	Y GND	p	- - - -
U	- - - -	q	INCOM TALK (C)
V	PB GND	r	POWER (−)
W	POWER SENSE (−)	s	- - - -
X	COMMAND GND	t	- - - -

VTR Connector

Pin No.	Signal	Pin No.	Signal
1	ENC VIDEO OUT	14	- - - -
2	ENC VIDEO GND	15	REC/TALLY/WARNING IN
3	Y GND	16	- - - -
4	Y OUT	17	SHILED
5	PR OUT	18	RETURN VIDEO IN
6	PR GND	19	RETURN VIDEO GND
7	PB OUT	20	VTR SAVE/AUDIO MON.
8	PB GND	21	- - - -
9	MIC (H) OUT	22	COLOUR FRAME OUT
10	MIC (C) OUT	23	- - - -
11	MIC GND	24	- - - -
12	VTR START/STOP OUT	A	+ 12V
13	- - - -	B	GND

EXT. Output Connector

Pin No.	Signal
1	RETURN VIDEO OUT
2	RETURN VIDEO GND
3	+ 12V
4	+ 12V
5	GND
6	GND
7	INCOM TALK
8	INCOM RECEIVE
9	TALLY OUT
10	- - - -

EXT. DC Input Connector

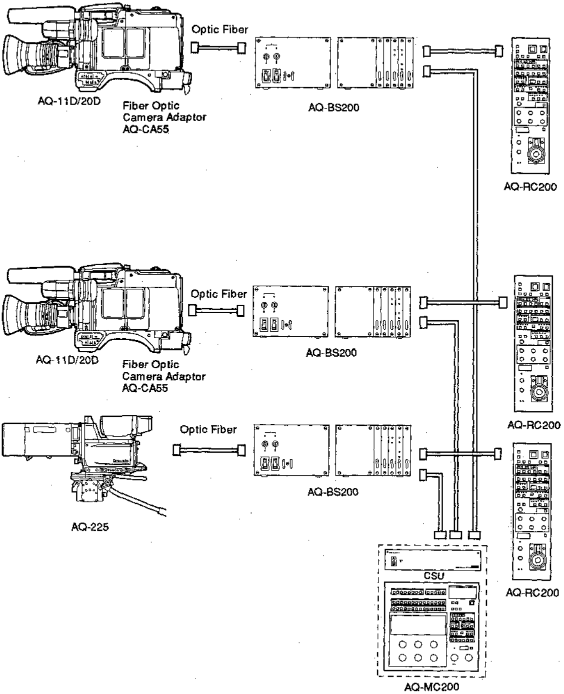
Pin No.	Signal
1	DC IN (−)
2	- - - -
3	- - - -
4	DC IN (+)

MIC Input Connector

Pin No.	Signal
1	SHIELD
2	MIC (H)
3	MIC (C)

16-5. Fiber Optic Camera Adaptor AQ-CA55

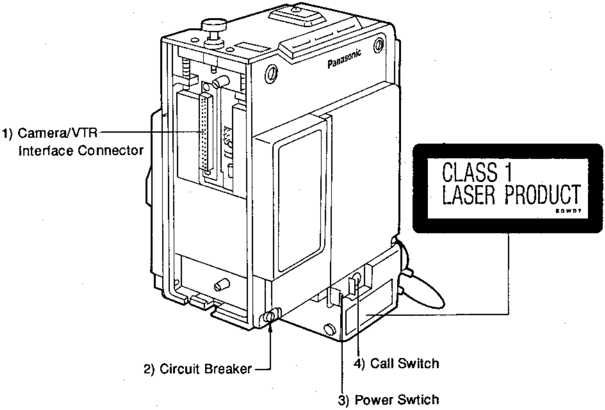
When the Fiber Optic Camera Adaptor AQ-CA55 (option) is mounted onto this unit and the Fiber Optic Base Station AQ-BS200 is connected, digital signals can be converted directly into optical signals and transmitted as far as to the base station.
Since opto-digital signals are used for transmission, the camera signals can be output without deterioration regardless of the length of the cable.
In adittion, various functions can be controlled by connecting the Remote Control Operation Panel AQ-RC200 to the AQ-BS200.
Since this unit has the same operational capability as the Studio Camera AQ-225, it can be used as a sussidialy camera in the studio,making it easy to update system composed of a multiple number of cameras.

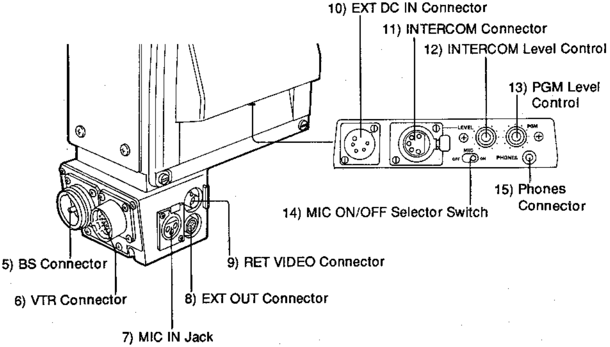

Optic Fiber
AQ-11D/20D
Fiber Optic
Camera Adaptor
AQ-CA55
AQ-BS200
AQ-RC200
Optic Fiber
AQ-11D/20D
Fiber Optic
Camera Adaptor
AQ-CA55
AQ-BS200
AQ-RC200
Optic Fiber
AQ-225
AQ-BS200
AQ-RC200
CSU
AQ-MC200

For details, refer to the Operating Instructions of the appropriate units.

- Refer to page 17 for details on the connections with the cameras.
- Refer to page 27 for details on the connections with the battery.

Controls and their Functions


Panasonic
1) Camera/VTR Interface Connector
CLASS 1 LASER PRODUCT
2) Circuit Breaker
4) Call Switch
3) Power Swtich


10) EXT DC IN Connector
11) INTERCOM Connector
12) INTERCOM Level Control
13) PGM Level Control
LEVEL
PGM
MIC
OFF
ON
PHONES
15) Phones Connector
14) MIC ON/OFF Selector Switch
5) BS Connector
9) RET VIDEO Connector
6) VTR Connector
8) EXT OUT Connector
7) MIC IN Jack

1) Camera/VTR Interface Connector (79-pin)
Connect the camera's 79-pin connector.

2) Circuit Breaker
This is the camera's power supply circuit breaker which is tripped when an excessively high current flows to the circuit. Press it to reset. Consult your dealer if it is ripeed again when the power is switched ON.

3) Power Switch
The power switch of this unit must be set to the position corresponding to the type of power to be supplied.

BS: When supplying power from the AQ-BS200.
VTR: When supplying power from the VTR.
EXT: When supplying power from an external source.

4) Call Switch
The Tally/Call Lamp on the AQ-RC200 lights when pressed.

5) BS Connector
Conncet the Fiber Optic Cable from the Camera connector on the optional AQ-BS200.

6) VTR Connector
26-pin connector for connecting a VTR.

7) MIC IN Jack
Connect a microphone.

8) EXT OUT Jack
Signals supplied to this connector are looped through to the RET VIDEO Connctor. Use it when connecting the return signals to an external unit.

9) RET VIDEO Connector
The video signals from the optional AQ-BS200 are output.

10) EXT DC IN Connector
Connector for supplying power from an external source.

11) INTERCOM Connector
Intercom signals are supplied.

12) INTERCOM Level Connector
Use when adjusting the intercom volume level.

13) PGM Level Control
Use to adjust the PGM volume level.

14) MIC ON/OFF Selector Switch
On/Off switch for the intercom microphne.

15) Phones Connector
Connect earphone.

Connector Signals

79-pin Interface Connector (79-pin)

Pin No.	Signal	Pin No .	Signal
1	ENC VIDEO IN	41	B - Y DIGITAL B8
2	ENC VIDEO GND	42	Y DIGITAL IN B1
3	R - Y DIGITAL IN MSB B9	43	Y DIGITAL IN LSB B0
4	R - Y DIGITAL IN B8	44	RETURN CONTROL
5	R - Y DIGITAL IN B7	45	RETURN SWITCH
6	Y/PB/PR GND	46	VTR START/STOP
7	PR IN	47	HD
8	Y OUT	48	VD
9	PB IN	49	REMOTE ON/OFF (COMMAND)
10	MIC COLD	50	- - -
11	REMOTE ON/OFF (GL)	51	CFP
12	R - Y DIGITAL IN B6	52	DIGITAL OUT ON/OFF
13	CAM DATA	53	GEN LOCK OUT
14	- - -	54	B - Y DIGITAL B7
15	R - Y DIGITAL IN B5	55	B - Y DIGITAL B6
16	H - CONT	56	B - Y DIGITAL B5
17	R - Y DIGITAL IN B4	57	B - Y DIGITAL B4
18	WARNING OUT	58	B - Y DIGITAL B3
19	CAM CONT	59	B - Y DIGITAL B2
20	R - Y DIGITAL IN B3	60	B - Y DIGITAL B1
21	R - Y DIGITAL IN B2	61	B - Y DIGITAL LSB B0
22	R - Y DIGITAL B1	62	REC TALLY
23	R - Y DIGITAL IN LSB B0	63	MIC HOT
24	TAPE REMAIN	64	- - -
25	- - -	65	A 9V
26	V - RESET	66	A 5V
27	Y DIGITAL IN MSB B9	67	A GND
28	Y DIGITAL IN B8	68	A -5V
29	Y DIGITAL IN B7	69	AUDIO MONITOR
30	Y DIGITAL IN B6	70	VR GND
31	Y DIGITAL IN B5	71	AUDIO ARM
32	Y DIGITAL IN B4	72	VR CENTRE
33	Y DIGITAL IN B3	73	POWER SAVE
34	Y DIGITAL IN B2	74	POWER GND
35	MIC SHIELD	75	+ 12V DC
36	- - -	76	+ 12V DC
37	CLK 8fsc	77	- - -
38	RETURN VIDEO	78	+ 12V OFF
39	RETURN VIDEO GND	79	- - -
40	B - Y DIGITAL MSB B9		

VTR Connector

Pin No.	Signal	Pin No.	Signal
1	ENC VIDEO OUT	14	----
2	ENC VIDEO GND	15	REC/TALLY/WARNING IN
3	Y GND	16	----
4	Y OUT	17	SHIELD
5	PR OUT	18	RETURN VIDEO IN
6	PR GND	19	RETURN VIDEO GND
7	PB OUT	20	VTR SAVE/AUDIO MON.
8	PB GND	21	----
9	MIC (H) OUT	22	COLOUR FRAME OUT
10	MIC (C) OUT	23	----
11	MIC GND	24	----
12	VTR START/STOP OUT	A	+ 12 V
13	----	B	GND

BS Connector

Pin No.	Signal
1	Optic signal 1 CAM→BS
2	AC (L)
3	INCOM (C)
4	Optic Signal 2 CAM←BS
5	INCOM (H)
6	AC (N)

EXT OUT Connector

Pin No.	Signal
1	RETURN VIDEO OUT
2	RETURN VIDEO GND
3	+ 12 V
4	+ 12 V
5	GND
6	GND
7	INCOM TALK
8	INCOME RECEIVE
9	TALLY OUT
10	----

INTERCOM Connector

Pin No.	Signal
1	GND
2	INTERCOM TALK
3	GND
4	INTERCOM RECEIVE
5	- - - -

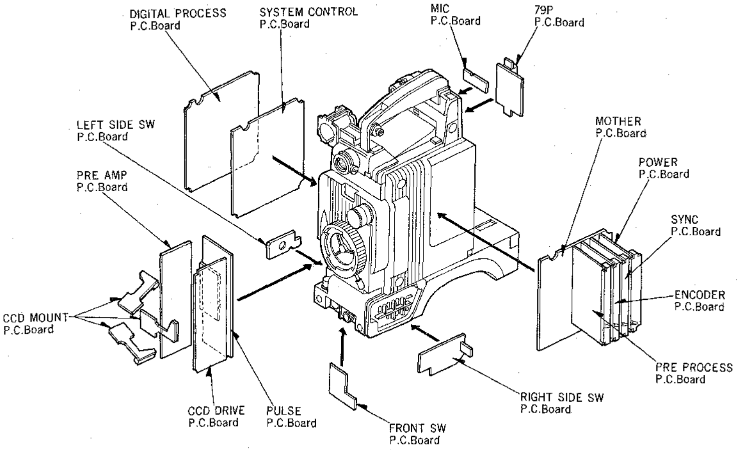
EXT. DC Input Connector

Pin No.	Signal
1	DC IN (–)
2	- - - -
3	- - - -
4	DC IN (+)

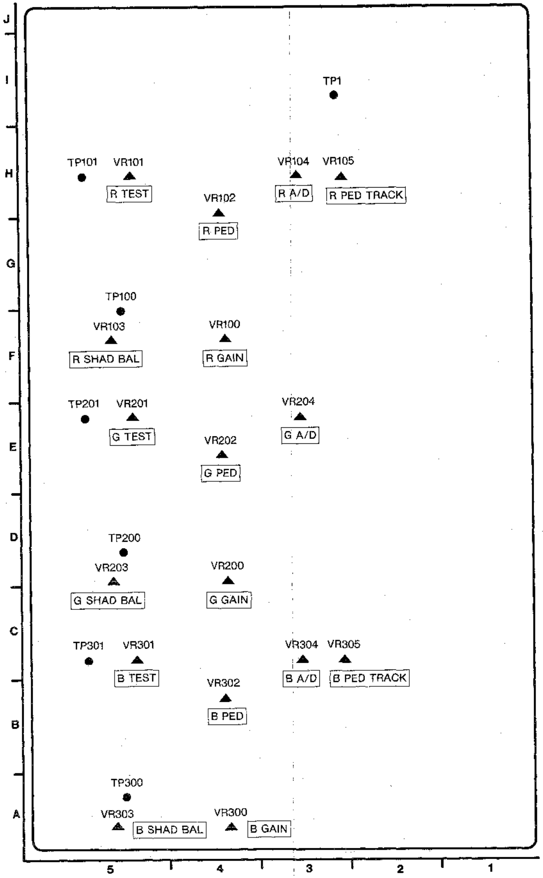
MIC Input Connector

Pin No.	Signal
1	SHIELD
2	MIC (H)
3	MIC (C)

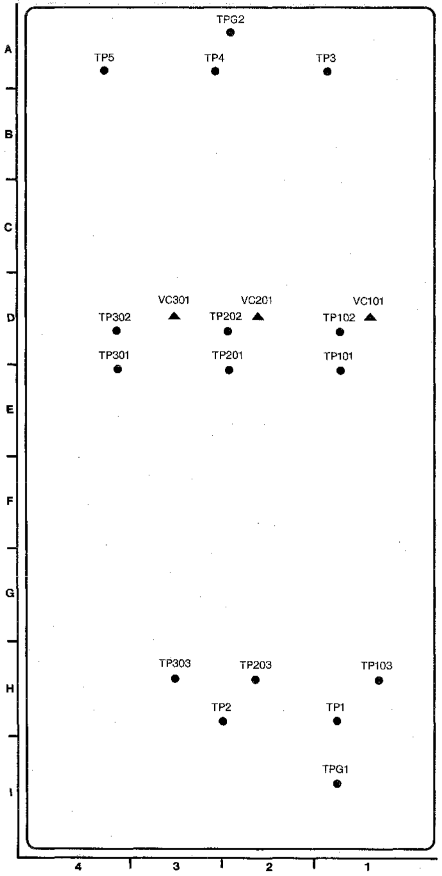
P.C.BOARD LOCATION


DIGITAL PROCESS P.C.Board
SYSTEM CONTROL P.C.Board
MIC P.C.Board
79P P.C.Board
LEFT SIDE SW P.C.Board
MOTHER P.C.Board
POWER P.C.Board
PRE AMP P.C.Board
SYNC P.C.Board
ENCODER P.C.Board
CCD MOUNT P.C.Board
PRE PROCESS P.C.Board
RIGHT SIDE SW P.C.Board
CCD DRIVE P.C.Board
PULSE P.C.Board
FRONT SW P.C.Board

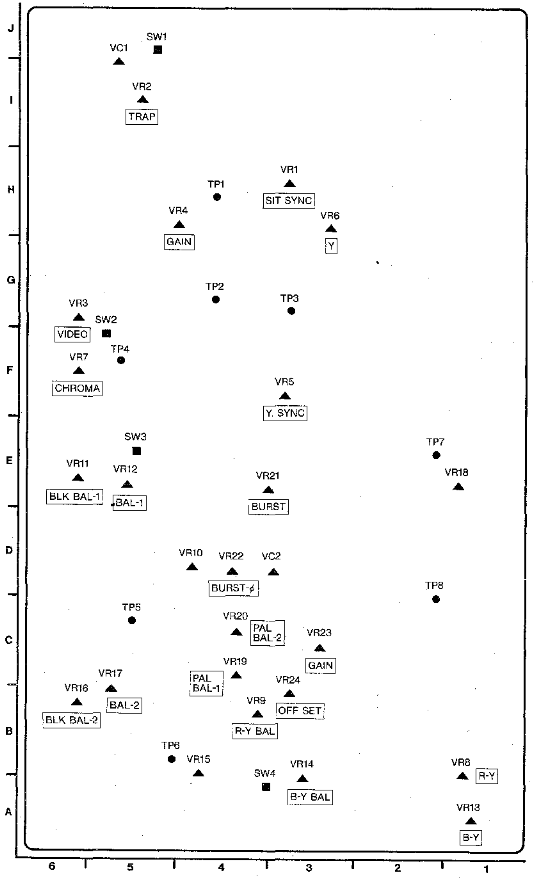
PRE PROCESS P.C.BOARD


J
I
H
G
F
E
D
C
B
A
5
4
3
2
1
TP1
TP101
VR101
R TEST
VR102
R PED
VR104
R A/D
VR105
R PED TRACK
TP100
VR103
R SHAD BAL
VR100
R GAIN
TP201
VR201
G TEST
VR202
G PED
VR204
G A/D
TP200
VR203
G SHAD BAL
VR200
G GAIN
TP301
VR301
B TEST
VR302
B PED
VR304
B A/D
VR305
B PED TRACK
TP300
VR303
B SHAD BAL
VR300
B GAIN

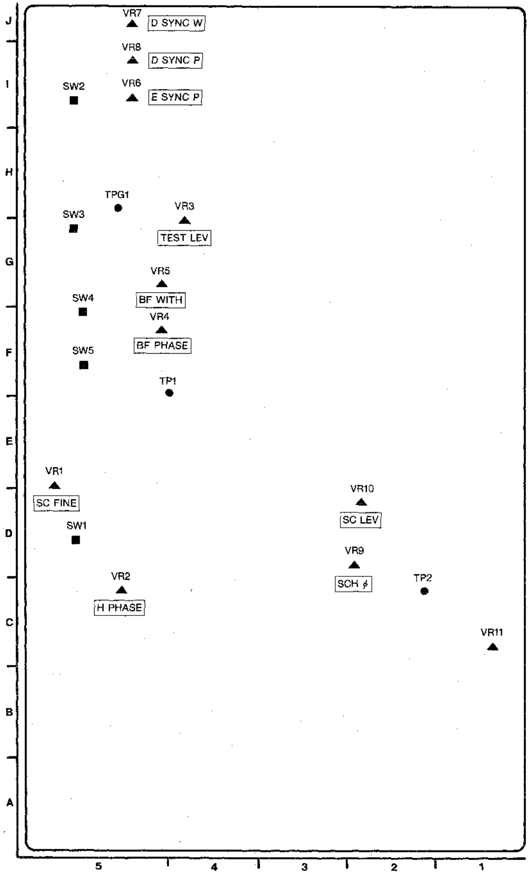
PRE AMP P.C.BOARD


TPG2
TP5
TP4
TP3
VC301
VC201
VC101
TP302
TP202
TP102
TP301
TP201
TP101
TP303
TP203
TP103
TP2
TP1
TPG1
A
B
C
D
E
F
G
H
I
4
3
2
1

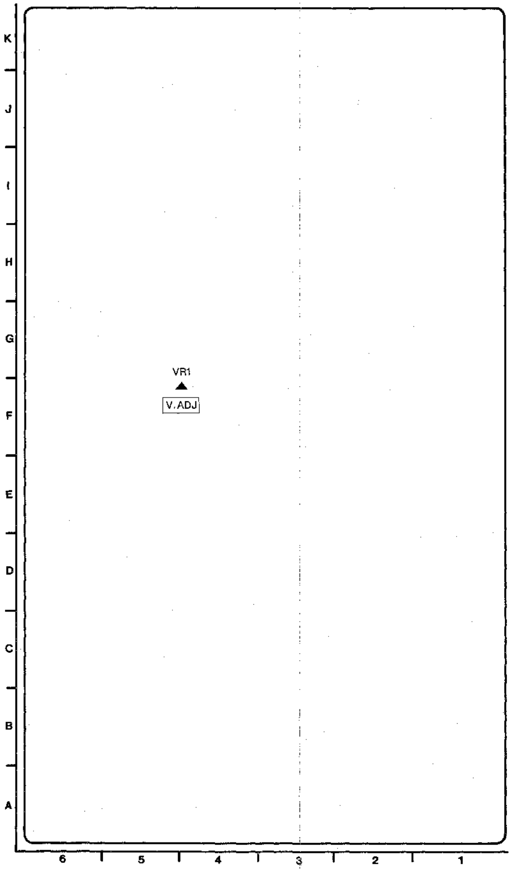
ENCODER P.C.BOARD


SW1
VC1
VR2
TRAP
VR1
TP1
SIT SYNC
VR4
GAIN
VR6
Y
TP2
TP3
VR3
SW2
VIDEO
VR7
TP4
CHROMA
VR5
Y. SYNC
SW3
TP7
VR11
VR12
VR21
VR18
BLK BAL-1
BAL-1
BURST
VR10
VR22
VC2
BURST-ϕ
TP8
TP5
VR20
PAL
BAL-2
VR23
GAIN
VR19
VR17
PAL
BAL-1
VR24
VR16
BAL-2
VR9
OFF SET
BLK BAL-2
R-Y BAL
TP6
VR15
SW4
VR14
VR8
R-Y
B-Y BAL
VR13
B-Y
J
I
H
G
F
E
D
C
B
A
6
5
4
3
2
1

SYNC P.C.BOARD


VR7
D SYNC W
VR8
D SYNC P
SW2
VR6
E SYNC P
TPG1
VR3
SW3
TEST LEV
VR5
SW4
BF WITH
VR4
BF PHASE
SW5
TP1
VR1
SC FINE
SW1
VR10
SC LEV
VR9
SCH ϕ
TP2
VR2
H PHASE
VR11
J
I
H
G
F
E
D
C
B
A
5
4
3
2
1

POWER P.C.BOARD


VR1
V.ADJ
K
J
I
H
G
F
E
D
C
B
A
6
5
4
3
2
1

Panasonic Broadcast Europe
A Division of Panasonic U.K. Limited
107-109 Whitby Road, Slough, Berks. SL1 3DR. Telephone: Slough (0753) 692442/692443

Printed in Japan
VQT4518

F0392H-50 A **E**

CONTENTS

NTSC

ELECTRICAL ADJUSTMENT PROCEDURES

RECOMMENDED TEST AND MEASURING EQUIPMENTS 4N-1
SETTING UP FOR LIGHTING 4N-2
SERVICE INFORMATION 4N-3
POSITION OF CONTROLS AND SWITCHES 4N-4
1. POWER SUPPLY SECTION 4N-5
  1-1. VOLTAGE ADJUSTMENT 4N-5
2. PRE-AMP, PULSE, CCD DRIVE SECTION 4N-5
  2-1. OG VOLTAGE PRE-ADJUSTMENT 4N-5
3. SYNC SECTION 1 .... 4N-6
  3-1. SC LEVEL & FREQUENCY ADJUSTMENT 4N-6
  3-2. TEST SIGNAL LEVEL ADJUSTMENT 4N-6
4. ENCODER SECTION 4N-7
  4-1. MONITOR OUTPUT LEVEL ADJUSTMENT 4N-7
  4-2. CHROMA PHASE ADJUSTMENT 1 .... 4N-7
  4-3. CHROMA PHASE ADJUSTMENT 2 .... 4N-8
  4-4. CHROMA PHASE ADJUSTMENT 3 .... 4N-8
  4-5. MONITOR LEVEL ADJUSTMENT 4N-9
  4-6. COMPONENT OUTPUT LEVEL ADJUSTMENT 4N-9
  4-7. COMPOSITE OUTPUT LEVEL ADJUSTMENT 4N-10
  4-8. CARRIER LEAK ADJUSTMENT 4N-10
5. PRE PROCESS SELECTION 4N-11
  5-1. PEDESTAL ADJUSTMENT 1 .... 4N-11
  5-2. PEDESTAL ADJUSTMENT 2 .... 4N-11
  5-3. TEST SIGNAL LEVEL ADJUSTMENT 1 .... 4N-12
  5-4. A/D INPUT GAIN ADJUSTMENT 4N-12
  5-5. TEST SIGNAL LEVEL ADJUSTMENT 4N-13
  5-6. PRE GAMMA CORRECTION INPUT GAIN ADJUSTMENT 4N-13
  5-7. SHADING CORRECTION ADJUSTMENT 4N-14
  5-8. MASTER PEDESTAL TRACKING ADJUSTMENT 4N-14
6. SYNC SECTION 2 .... 4N-15
  6-1. SYNC PHASE ADJUSTMENT 4N-15
7. OG SECTION 4N-16
  7-1. OG VOLTAGE ADJUSTMENT 4N-16
8. USER SETTING ADJUSTMENT 4N-17
  8-1. BLACK SHADING ADJUSTMENT 4N-17
  8-2. WHITE SHADING ADJUSTMENT 4N-18
  8-3. FLARE CORRECTION ADJUSTMENT 4N-19
  8-4. AUTO IRIS ADJUSTMENT 4N-20

CONTENTS

PAL

ELECTRICAL ADJUSTMENT PROCEDURES

RECOMMENDED TEST AND MEASURING EQUIPMENTS 4P-1
SETTING UP FOR LIGHTING 4P-2
SERVICE INFORMATION 4P-3
POSITION OF CONTROLS AND SWITCHES 4P-4
1. POWER SUPPLY SECTION 4P-5
  1-1. VOLTAGE ADJUSTMENT 4P-5
2. PRE-AMP, PULSE, CCD DRIVE SECTION 4P-5
  2-1. OG VOLTAGE PRE-ADJUSTMENT 4P-5
3. SYNC SECTION 1 .... 4P-6
  3-1. SC LEVEL & FREQUENCY ADJUSTMENT 4P-6
  3-2. TEST SIGNAL LEVEL ADJUSTMENT 4P-6
4. ENCODER SECTION 4P-7
  4-1. BLACK BALANCE ADJUSTMENT 1 .... 4P-7
  4-2. BLACK BALANCE ADJUSTMENT 2 .... 4P-7
  4-3. MONITOR OUTPUT LEVEL ADJUSTMENT 4P-8
  4-4. CHROMA PHASE ADJUSTMENT 1 .... 4P-8
  4-5. CHROMA PHASE ADJUSTMENT 2 .... 4P-9
  4-6. CHROMA PHASE ADJUSTMENT 3 .... 4P-9
  4-7. MONITOR LEVEL ADJUSTMENT 4P-10
  4-8. COMPONENT OUTPUT LEVEL ADJUSTMENT 4P-10
  4-9. COMPOSITE OUTPUT LEVEL ADJUSTMENT 4P-11
  4-10.CARRIER LEAK ADJUSTMENT 4P-11
5. PRE PROCESS SELECTION 4P-12
  5-1. PEDESTAL ADJUSTMENT 1 .... 4P-12
  5-2. PEDESTAL ADJUSTMENT 2 .... 4P-12
  5-3. TEST SIGNAL LEVEL ADJUSTMENT 1 .... 4P-13
  5-4. A/D INPUT GAIN ADJUSTMENT 4P-13
  5-5. TEST SIGNAL LEVEL ADJUSTMENT 2 .... 4P-14
  5-6. PRE GAMMA CORRECTION INPUT GAIN ADJUSTMENT 4P-14
  5-7. SHADING CORRECTION ADJUSTMENT 4P-15
  5-8. MASTER PEDESTAL TRACKING ADJUSTMENT 4P-15
6. SYNC SECTION 2 .... 4P-16
  6-1. SYNC PHASE ADJUSTMENT 4P-16
7. OG SECTION 4P-16
  7-1. OG VOLTAGE ADJUSTMENT 4P-16
8. USER SETTING ADJUSTMENT 4P-17
  8-1. BLACK SHADING ADJUSTMENT 4P-17
  8-2. WHITE SHADING ADJUSTMENT 4P-18
  8-3. FLARE CORRECTION ADJUSTMENT 4P-19
  8-4. AUTO IRIS ADJUSTMENT 4P-20

NTSC Electrical Adjustment Procedures

Recommended Test and Measuring Equipments

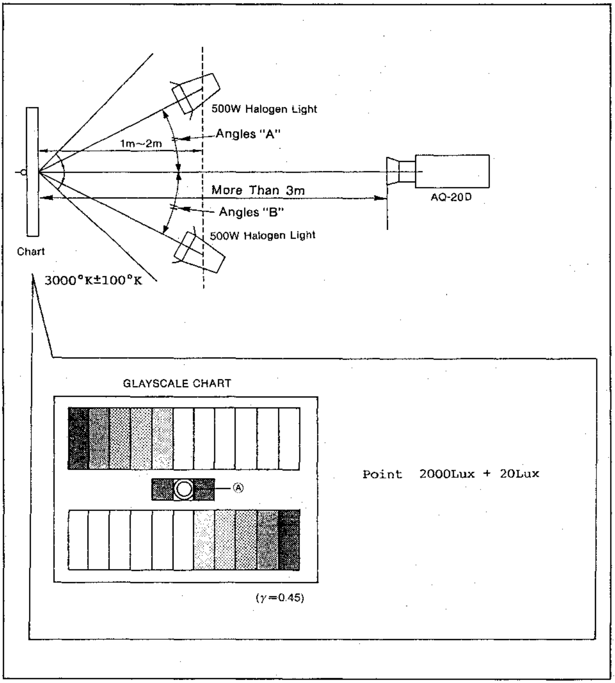
The following test and measuring equipments are required to conduct the electrical adjustments.

Model No. or Equivalent	Equipment	Remark
2467B TEKTRONIX	Dual Trace Oscilloscope	More than 100MHz
1485R TEKTRONIX	Wave Form Monitor	
520A TEKTRONIX	Vector Scope	
1750 TEKTRONIX	SCH Meter	
1910 TEKTRONIX	Digital Signal Generator	
	Digital Volt Meter (D.V.M.)	
	Frequency Counter	
	DC Power Supply	12VDC More than 5A
MINOLTA	Color Pyrometer and LUX Meter	20 - 20,000LUX
VFK0645	Grayscale Chart	11 Steps, γ=0.45 Black=2.0% Reflection
VFK0673	Registration Chart	
	Lighting	2000LUX, 3200°K (500W)
PORTA PATTERN	Light Box (Spherical Type)	White Flat Pattern without any Shading
	Transparency Charts for Light Box	This is not required for Electrical Adjustment.
CANON or FUJINON or NIKON	Zoom Lens	CANON : *****-NX12 FUJINON : *****-28 NIKON : *****-20

Setting up for Lighting

In order to illuminate the surface of the chart in the following specifications, the following lighting system is one of the recommended system.

1. Distance between camera and test chart should be more than 3m as shown bellow.
2. Lighting angles "A" and "B" should be equal as shown bellow.
3. Lighting should be the following conditions.
   Lamp : Halogen lamps x2 (500W x2)
   Lux : 1,600 Lux +20Lux at "A" point
4. The room should be closed by a black curtain.

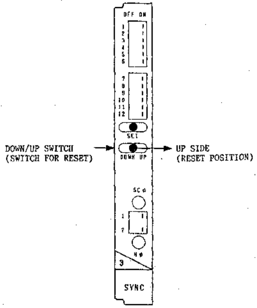

500W Halogen Light
Angles "A"
1m~2m
More Than 3m
AQ-20D
Angles "B"
500W Halogen Light
Chart
3000°K±100°K
GLAYSCALE CHART
Ⓐ
Point 2000Lux + 20Lux
(γ=0.45)

Service Information

Camera Reset

The camera reset function is used to reset the data of camera user settings.
When the camera reset is performed, the user settings and AWB/ABB data will change to the factory standard settings except White and Black Shading data.

1. Turn the power switch off.
2. Remove the right side cover.
3. The user set switch and DIP switches will be visible on the Sync P.C.Board.
4. Set the UP/DOWN switch to right (UP) side and keep this condition.
5. Turn the power switch on and release the UP/DOWN switch.

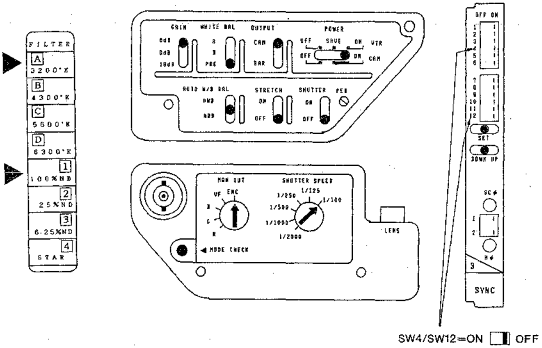

OFF ON
1
2
3
4
5
6
7
8
9
10
11
12
SET
DOWN/UP SWITCH
(SWITCH FOR RESET)
DOWN UP
UP SIDE
(RESET POSITION)
SC φ
1
2
H φ
3
SYNC

Position of Controls and Switches

Unless otherwise specified, set the controls and switches on the Camera Recorder as shown bellow.

Switch		Position					
Front	CC Filter	A. 3200°K ○	B.4300°K	C. 5600°K	D. 6300°K		
	ND Filter	1. 100% ND ○	2. 25%ND	3. 6.25%ND	4. STAR		
Right Side	Gain	0dB ○	9dB	18dB			
	Out Put	CAM ○	BAR				
	White Bal Mem	A	B	PRE ○			
	Stretch	ON ○	OFF				
	Shutter	ON ○	OFF				
Left Side	Monitor Out	R	G	B	VF	ENC ○	
	Shutter Speed	1/100 ○	1/125	1/250	1/500	1/1000	1/2000
Sync P.C.Board	* User Set Switch	1 ON	2 ON	3 ON	4 OFF	5 ON	6 ON
		7 ON	8 ON	9 ON	10 ON	11 ON	12 OFF

* All dip switches set to Right side


FILTER
A 3200°K
B 4300°K
C 5600°K
D 6300°K
1 100%ND
2 25%ND
3 6.25%ND
4 STAR
GAIN 0dB 9dB 18dB
WHITE BAL A B PRE
OUTPUT CAM BAR
POWER OFF SAVE ON VTR
OFF ON CAM
AUTO W/B BAL AWB ABB
STRETCH ON OFF
SHUTTER ON OFF
PEI
MON OUT VF ENC B G R
SHUTTER SPEED 1/125 1/250 1/100 1/500 1/1000 1/2000
MODE CHECK
LENS
OFF ON
1 2 3 4 5 6 7 8 9 10 11 12
SET
DOWN UP
SC φ
1 2
H φ
3
SYNC
SW4/SW12=ON OFF

1. Power Supply Section

1-1. Voltage Adjustment

Board	Camera Power
T.P.	EXTP3
Adj.	VR1 [+8.6V]
F.NBR.	------
Chart	------
M.EQ	D.V.M.
Spec.	DC 8.6V (±0.05V)

2. Pre-AMP, Pulse, CCD Drive Section

2-1. OG Voltage Pre-Adjustment

Board	OG Adj.
T.P.	point A,B,C (fig. 1)
Adj.	VR1 [R OG] VR2 [G OG] VR3 [B OG]
F.NBR.	------
Chart	------
M.EQ.	D.V.M.
Spec.	+8VDC

Step 1

D.V.M. : point A (R)

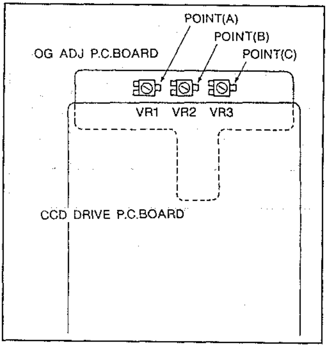
Step 2

Adjust VR1 (R) so that DC level is +8VDC at the point (A).

Step 3

Perform the same adjustment Step 1 and Step 2 for the Green and Blue channel.

Green	:	point B / Adj. VR2
Blue	:	point C / Adj. VR3


POINT(A)
POINT(B)
OG ADJ P.C.BOARD
POINT(C)
VR1
VR2
VR3
CCD DRIVE P.C.BOARD

3. SYNC Section 1

3-1. SC Level & Frequency Adjustment

Board	SYNC
T.P.	EXTP26
Adj.	VR10[SC LVL](D-2), X1[SC Frq](D-4)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope Frequency Counter (VP-4545A)
Spec.	A = 1Vp-p(±0.01V), SC= 4.43361875MHz(±1Hz)

[Condition]

Gen Lock : OFF

Step 1

Scope CH1 : EXTP26 200mV/D, 100μs/D

Step 2

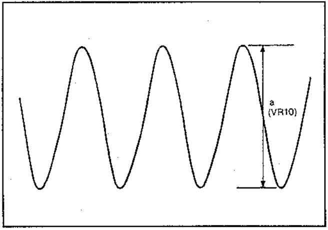
Adjust VR10 so that the (a) portion is 1Vp-p (±0.01V).

Step 3

Freq. counter :EXTP26

Step 4

Adjust X1 so that the SC frequency is 4.43361875 (±1Hz).



3-2. TEST Signal Level Adjustment

Board	SYNC
T.P.	EXTP17
Adj.	VR3 [TEST LVL](G-4)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	a = 1.7Vp-p (±0.01V)

[SW Position]

SW4 (SYNC P.C.Board) : ON (TEST Mode)

Step 1

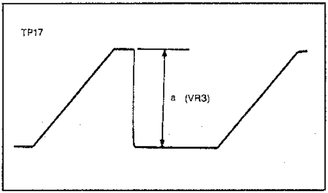
Scope CH1 : EXTP17 500mV/D, 10μs/D

Step 2

Adjust VR3 so that the (a) portion is 1.7Vp-p (±0.01V)

Step 3

Reset the SW4 on the Sync P.C.Board to off position.



4. Encoder Section

4-1. Monitor Output Level Adjustment

Board	Encoder
T.P.	Monitor Out (ENC position)
Adj.	VR3[VIDEO](G-6), VR1[SYNC](H-3) VR11[BLK BAL-1](E-6) VR16[BLK BAL-2](B-6)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	a = 0.714Vp-p, b = 0.286Vp-p, c = Minimum

[SW Position]
- CAM/BAR Select SW : BAR

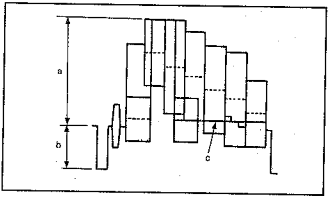
[Condition]
- 75Ω terminate

Step 1
WFM : Monitor Out (ENC Position)

Step 2.
Adjust VR3 so that the (a) portion is 0.714Vp-p.

Step 3
Adjust VR1 so that the (b) portion is 0.286Vp-p.

Step 4
Set the Gain VR of W.F.M. to maximum.
Adjust VR11 and VR16 so that the (c) portion is minimized.



4-2. Chroma Phase Adjustment 1

Board	Encoder
T.P.	TP5(C-5) Video Out
Adj.	VR10[Q GAIN](D-5), VR7[CHROMA](F-6) VR9[R-Y BAL](B-3)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope, Vectorscope
Spec.	a = 650mVp-p

[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- GEN LOCK : ON
- Set the Vectorscope in the EXT Reference Mode
- 75Ω terminate

Step 1
Scope CH1 : TP5 100mV/D, 10μs/D

Step 2
Adjust VR10 so that the portion (a) is 650mVp-p.

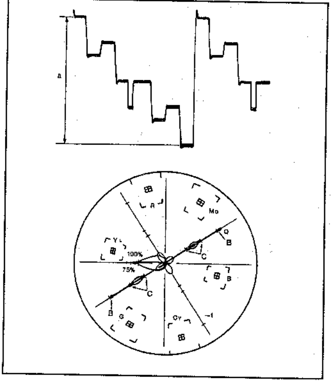
Step 3
Set SW4 (A-3) to OFF

Step 4
Vectorscope : Video Out

Step 5
Adjust the phase VR on the Vectorscope so that the Q phase of the Vectorscope and signal is matched each other, and adjust VR7 so that the level markers (B) on the Vectorscope and Q signal gain are matched each other.

Step 6
Adjust VR9 so that the level marker (c) and Q signal gain are matched each other.

Step 7
Continue to the next adjustment.



4-3. Chroma Phase Adjustment 2

Board	Encoder
T.P.	Video Out
Adj.	VR14[B-Y BAL](B-3), VR15[I GAIN](A-4), VC2[QUAD ϕ](D-3)
F.NBR.	------
Chart	------
M.EQ.	Vectorscope
Spec.	as shown figure

[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- GEN LOCK : ON (BBS IN)
- Set the Vectorscope in the EXT Reference Mode
- 75Ω terminate

Step 8
Set SW4 (A-3) to ON and SW3 (E-5) to OFF.

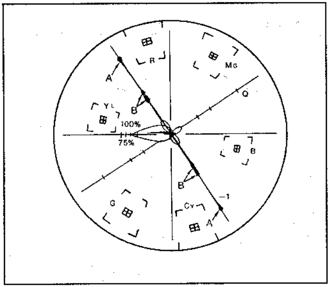
Step 9
Adjust VC2 so that the I signal matches the I axis of the Vectorscope.

Step 10
Adjust VR15 so that the I signal gain matches the Level Markers (A) of the Vectorscope.

Step 11
Adjust VR14 so that the I signal gain matches the Level Markers (B) of the Vectorscope.

Step 12
Set SW3 (E-5) to ON

Step 13
Set the Gain VR of the Vectorscope in the Calibration mode.



4-4. Chroma Phase Adjustment 3

Board	Encoder
T.P.	Video Out
Adj.	VR7[CHROMA](F-6), VR22[BURST Ø](D-4), VR21[BURST](E-3)
F.NBR.	------
Chart	------
M.EQ.	W.F.M., Vectorscope
Spec.	a = 0.286Vp-p

[SW Position]
- CAM/BAR Select SW : BAR

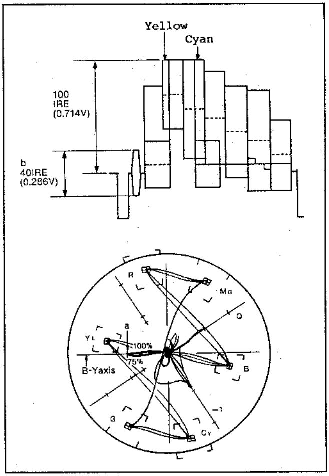
[Condition]
- GEN LOCK : ON (BBS IN)
- 75Ω terminate

Step 1
1. Adjust VR7 so that the each chroma phase is in the Inner Box of Vectorscope.
2. Confirm that the upper level of the Yellow and Cyan is 0.714V, and lower level of the Green is 0V.

Step 2
Adjust VR22 so that the Burst phase matches the Color Burst axis as shown figure.

Step 3
Adjust VR21 so that the Burst Level (a) is 0.286Vp-p.

Step 4
Confirm that the each chroma phase is in the Inner Box of Vectorscope.
If it is not, repeat Procedures 4-2, 4-3, 4-4, "Chroma phase Adjustment".



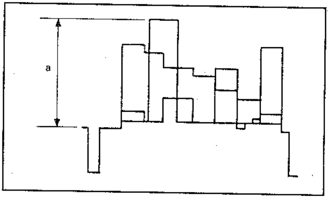
4-5. Monitor Level Adjustment

Board	Encoder
T.P.	Monitor Out (VF position)
Adj.	VR18 [MON](E-1)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	a = 0.714V(100IRE)

[SW Position]
· CAM/BAR Select SW : BAR

[Condition]
· 75Ω terminate

Step 1
Adjust VR18 so that the (a) portion is 0.714Vp-p(100IRE).



4-6. Component Output Level Adjustment

Board	Encoder
T.P.	EXTP33 (B-Y), EXTP34 (R-Y) EXTP35 (Y), EXTP37 (ENC)
Adj.	VR4[GAIN](H-5), VR5[OFF SET](F-3), VR6[Y](H-3), VR8[R-Y](B-1), VR13[B-Y](A-1)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	A=0.7Vp-p, B=0.3Vp-p, C=0.486Vp-p D=0.486Vp-p, E=2Vp-p

[SW Position]
· CAM/BAR Select SW : BAR

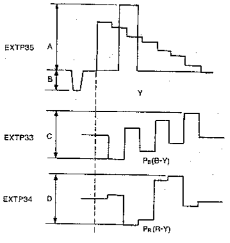
[Condition]
Attach AU-410
(for terminate the 79pin connector)

Step 1
Scope CH1 : EXTP35 200mV/D, 10µs/D
Adjust VR6 so that portion (A) is 0.7Vp-p and Adjust VR5 so that (B) portion is 0.3Vp-p.

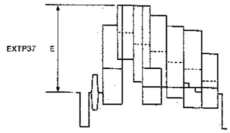
Step 2
Scope CH1 : EXTP34 200mV/D, 10µs/D
Adjust VR8 so that portion (C) is 0.486Vp-p.

Step 3
Scope CH1 : EXTP33 200mV/D, 10µs/D
Adjust VR3 so that portion (D) is 0.486Vp-p.

Step 4
Scope CH1 : EXTP37 200mV/D, 10µs/D
Adjust VR4 so that portion (E) is 2Vp-p.



(1KΩ termination)

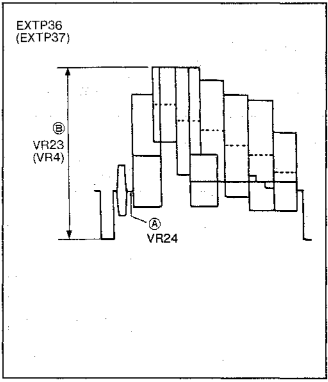


(75Ω termination)

4-7. Composite Output Level Adjustment

Board	Encoder
T.P.	EXTP36, EXTP37
Adj.	VR23 (GAIN), VR24 (OFF SET) VR4 (GAIN)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	A = 0V DC, B = 1Vp-p

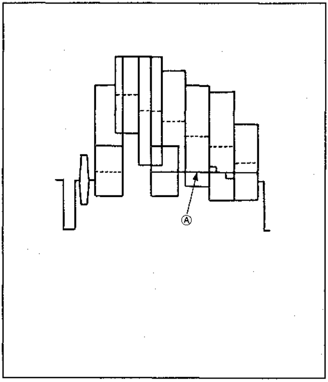
[SW Position]
 · CAM/BAR Select SW : BAR
[Condition]
 · Video OUT : 75Ω terminate
Step 1
 Scope CH1 : EXTP36 200mV/D, 10μs/D
Step 2
 Adjust VR24 so that DC level of (A) portion is 0V DC.
Step 3
 Adjust VR23 so that (B) portion is 1Vp-p.
Step 4
 Scope CH1 : EXTP37 200mV/D, 10μs/D
Step 5
 Adjust VR4 so that (B) portion is 1Vp-p.



4-8. Carrier Leak Adjustment

Board	Encoder
T.P.	Monitor Out (ENC Position)
Adj.	VR11[BLK BAL 1](E-6) VR16[BLK BAL 2](B-6)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	A=Minimum

[SW Position]
 · CAM/BAR Select SW : BAR
[Condition]
 · Video OUT : 75Ω terminate
Step 1
 Scope CH1 : EXTP36 200mV/D, 10μs/D
Step 2
 Adjust VR24 so that DC level of (A) portion is 0V DC.
Step 3
 Adjust VR23 so that (B) portion is 1Vp-p.
Step 4
 Scope CH1 : EXTP37 200mV/D, 10μs/D
Step 5
 Adjust VR4 so that (B) portion is 1Vp-p.



5. Pre Process Selection

5-1. Pedestal Adjustment 1

Board	Pre Process
T.P.	EXTP24,EXTP25,EXTP26
Adj.	M-PED VR
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	2.0VDC (±0.1V)

Step 1

Reset the camera.

<How to reset the camera>

1) Turn the Power SW off.
2) Set the SW A on the SYNC P.C.Board to right side (Up Side) and keep this condition.
3) Then turn the Power SW on and release SW A.

After reset the camera, all User data change to the factory data except the shading data.

Step 2

Confirm that the DC level is 2.0VDC (±0.1V) at EXTP24,25,26.

If these are not 2.0V, adjust M-PED (Master - Pedestal) on the Left Side panel so that DC level is 2.0VDC.

Step 3

If the voltage at each Test Point can not be adjust within 2.0VDC, reset the camera again. And readjust the M-PED VR.

5-2. Pedestal Adjustment 2

Board	Pre Process
T.P.	EXTP33(R),EXTP34(G),EXTP35(B), EXTP30 (Trigger)
Adj.	VR102[R PED](H-4), VR202[G PED](E-4) VR302[B PED](B-4)
F.NBR.	C (Close)
Chart	------
M.EQ.	Oscilloscope
Spec.	as shown figure

Note:

Adjustment "4-1 Pedestal Adjustment 1" should be completed before starting this adjustment.

Step 1

Scope : EXTP33 (Red) 100mV/D, 10µs/D

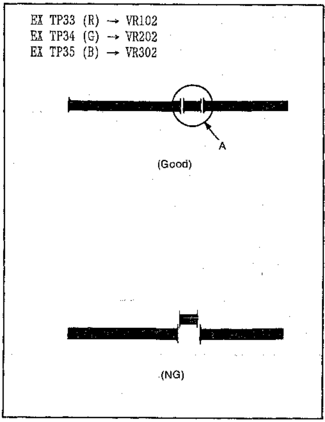
Step 2

Adjust VR102 (Red) so that the Black level and the Blanking level become the same level as (A) when Iris is closed.

Step 3

Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : EXTP34 / Adj. VR202
Blue : EXTP35 / Adj. VR302



5-3. TEST Signal Level Adjustment 1

Board	Pre Process
T.P.	TP101(R)(H-5), TP201(G)(E-5), TP301(B)(C-5), EXTP30 (Trigger)
Adj.	VR101[R TEST](H-5), VR201[G TEST](E VR301[B TEST](C-5)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	A = 666mVp-p

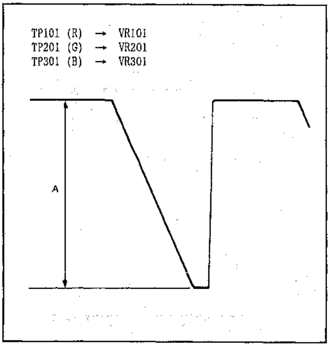
[SW Position]
SW4 : ON (TEST mode)
(On the SYNC P.C.Board)
GAIN = 0dB
WHITE BAL = PRE

Step 1
Scope CH1 : TP101 (Red) 100mV/D, 10μs/D

Step 2
Adjust VR101 (Red) so that the TEST signal Level (A) is 666mVp-p.

Step 3
Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : TP201 / Adj. VR201
Blue : TP301 / Adj. VR301



5-4. A/D Input Gain Adjustment

Board	Pre Process
T.P.	Monitor out (R/G/B position)
Adj.	VR104 [R A/D](H-3), VR204[G A/D](E-3), VR304[B A/D](C-3)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	as shown figure

[SW Position]
Gain : 9dB (on Right Side SW Panel)
SW4 : ON (TEST mode)
(on the sync P.C.Board)

Step 1
Turn the ABB SW to ON. (on the FRONT SW Panel)

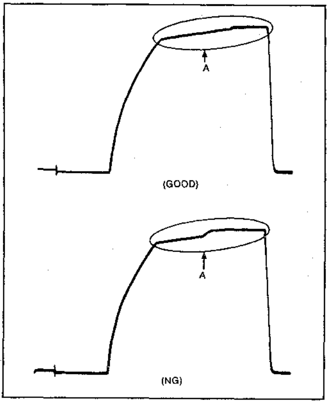
Step 2
Set the Monitor Select SW to R position.

Step 3
Adjust VR104 (Red) so that the A portion is flat as shown figure.

Step 4
Perform the same adjustment steps 1, 2 and 3 for the Green and Blue.
Green : Monitor Out / Adj. VR204
Blue : Monitor Out / Adj. VR304

Step 5
Confirm that the R.G and Bch is the same waveform as shown figure. If it is not, repeat steps 1 to 4 for R, G and B.

Step 6
Turn SW4 to OFF position and Gain SW to 0dB position.



5-5. TEST Signal Level Adjustment 2

Board	Pre Process
T.P.	Monitor out (R/G/B position)
Adj.	VR101[R TEST](H-5), VR201[G TEST](E-5), VR301[B TEST](C-5)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	A = 100IRE

[SW Position]

· Gain	:	0dB (on the Right Side SW Panel)
· SW4	:	ON (TEST mode)
· WHITE BAL	:	PRE (on the Right Side SW Panel)

Step 1

Set the Monitor Select SW to R position.

Step 2

Adjust VR101 (Red) so that TEST signal Level is 100IRE (0.714Vp-p).

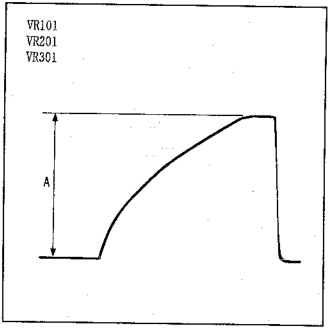
Step 3

Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : Monitor Out / Adj. VR201
Blue : Monitor Out / Adj. VR301

Step 4

Turn SW4 to OFF position.



5-6. Pre Gamma Correction Input Gain Adjustment

Board	Pre Process
T.P.	Monitor Out (R/G/B position)
Adj.	VR100[R GAIN](F-4), VR200[G GAIN](D-4), VR300[B GAIN](A-4)
F.NBR.	F8 (1600LX)
Chart	Gray scale
M.EQ.	W.F.M.
Spec.	A = 100IRE

Step 1

Set the Monitor Select SW to R position.

Step 2

Adjust VR100 (Red) so that the signal Level (A) is 100IRE (0.714Vp-p).

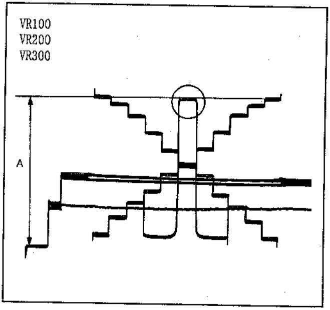
Step 3

Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : Monitor Out / Adj. VR200
Blue : Monitor Out / Adj. VR300

Step 4

Confirm that the R, G and Bch are same waveform as shown figure.
If it is not, repeat Steps 1 to 3.



5-7. Shading Correction Adjustment

Board	Pre Process
T.P.	EXTP33(R),EXTP34(G),EXTP35(B), EXTP30 (Trigger)
Adj.	VR103[R SHAD BAL](F-5), VR203[G SHAD BAL](D-5), VR303[B SHAD BAL](A-5)
F.NBR.	F8 (1600LX) → C (Close)
Chart	Grayscale
M.EQ.	Oscilloscope
Spec.	as shown figure

Step 1

Scope CH1 : EXTP33 (Red) 100mV/D, 10μs/D

Step 2

Perform the Auto White Shading.

1. Set the SW12 (SYNC P.C.B.) to ON position. (User Setting Mode)
2. Select the Shading Page by using the PAGE SW.
3. Select the White by using the ITEM SW.
4. Shoot the gray scale chart.
5. Turn the AWB SW to on.

Step 3

Close the IRIS, and adjust VR103 so that carrier is minimized as shown figure.

Step 4

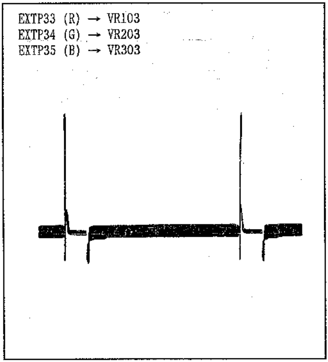
Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : EXTP34 / Adj. VR203
Blue : EXTP35 / Adj. VR303

Step 4

SW12 (SYNC P.C.B.) : OFF

Perform the white shading again with no shading white chart.



5-8. Master Pedestal Tracking Adjustment

Board	Pre Process
T.P.	Monitor Out (ENC position)
Adj.	VR105[R PED TRACK](H-3), VR305[B PED TRACK](C-3)
F.NBR.	C (Close)
Chart	------
M.EQ.	Vectorscope (Gain MAX) W.F.M.
Spec.	as shown figure

Step 1

Adjust the Master Pedestal VR (on the LEFT side SW) so that the Pedestal Level is 7.5%.

Step 2

Turn the ABB SW ON
(on the FRONT SW)

Step 3

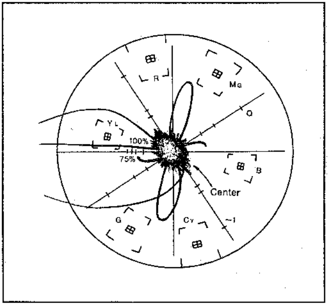
Adjust the Master Pedestal VR so that the Pedestal Level is maximum.

Step 4

Set the gain VR of the Vectorscope to maximum. Adjustment VR105 and VR305 so that Carrier is center position of the Vectorscope as shown figure. And Repeat Step 1 to Step 4 a few times.

Step 5

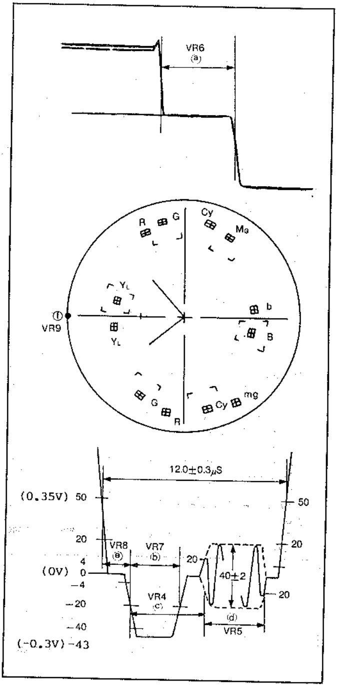
After this Adjustment, Adjust the Master Pedestal VR (on the right side SW) so that the Pedestal level is 7.5%.



6. SYNC Section 2

6-1. SYNC Phase Adjustment

Board	SYNC
T.P.	Video Out, 79P connector Pin 8
Adj.	VR4[BF PHASE](F-5),VR5[BV WITH](G-5) VR6[E SYNC P](J-5),VR7[D SYNC W](J-5) VR8[D SYNC P](J-5),VR9[SCH Ø](D-2) VR11(C-1)
F.NBR.	F 8 (1600LX)
Chart	Grayscale
M.EQ.	W.F.M. Oscilloscope SCH Meter VFK0604 (External DC cable)
Spec.	a = 1.5μs(±0.05μs), b = 4.7μs(±0.05μs) c = 5.3μs(±0.01μs), d = 9 cycle e = 1.5μs(±0.03μs), f = SCH 0° VR11 = Center position


VR6
(a)
R
G
Cy
Mg
YL
b
B
①
VR9
YL
G
R
Cy
mg
12.0±0.3μS
(0.35V) 50
20
4
(0V) 0
−4
−20
−40
(−0.3V) −43
VR8
(e)
VR7
(b)
20
40±2
VR4
(c)
(d)
VR5
50
20
20

[Condition]
Gen Lock : OFF
Power Supply : Use VFK0604 (External DC Cable)

Step 1
Scope CH1 : 79pin connector pin 8

Step 2
Adjust VR6 so that the prtion (a) is 1.5μs(±0.05μs). (4%~20%)

Step 3
WFM : Video Out

Step 4
Adjust VR8 so that the (e) portion is 1.5μs (±0.05μs). (4% ~ 20%)

Step 5
Adjust VR7 so that the (b) portion is 4.7μs (±0.05μs). (-20% ~ -20%)

Step 6
Adjust VR4 so that the (c) portion is 5.3μs (±0.05μs). (-20% ~ -20%)

Step 7
Adjust VR5 so that the Burst (d) is 9 cycles.

Step 8
SCH meter : Video Out

Step 9
Adjust VR9 so that the SCH is 0° (f).

7. OG Section

7-1. OG Voltage Adjustment

Board	OG Adj.
T.P.	Monitor Out (ENC/R/B)
Adj.	VR1[R OG], VR2[G OG], VR3[B OG]
F.NBR.	F8 (1600LX)
Chart	Grayscale
M.EQ.	W.F.M
Spec.	as shown figure

[SW Position]
Set the standard position.

Step 1
Set the White BAL SW and Monitor Select SW as follows
White Bal : A position
Monitor Select : Enc position
Turn the AWB SW to on.

Step 2
Check the white tracking at the white portion of the grayscale when set the Iris position so that the video level is 40%. (Fig. 1)

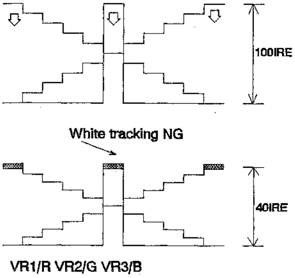
Step 3
If white tracking is bad condition (Fig. 1), Check the Signal level for each R, G, and B signal by the Monitor Out.

Step 4
Adjust VR1, VR2 and VR3 so that the signal level is same level each R, G, and B signals.

Step 5
Readjust the 5-6 Pre Gamma correction Input Gain Adjustment.

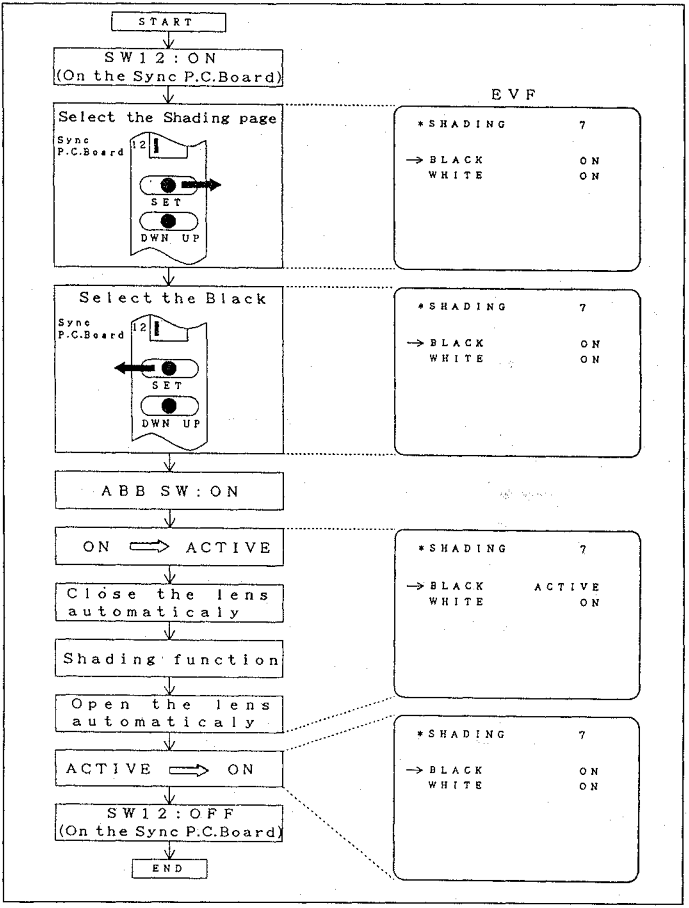
Step 6
Repeat Step 2 to 5 a few times.

Step 6
After this adjustment, readjust the 6-3 Flare Correction Adjustment.



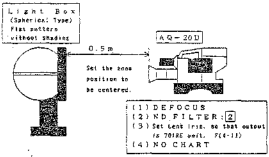
8. User Setting Adjustment

8-1. Black Shading Adjustment


START
SW12: ON
(On the Sync P.C.Board)
EVF
Select the Shading page
Sync
P.C.Board
12
SET
DWN UP
*SHADING 7
→ BLACK ON
WHITE ON
Select the Black
Sync
P.C.Board
12
SET
DWN UP
*SHADING 7
→ BLACK ON
WHITE ON
ABB SW: ON
ON ⇨ ACTIVE
*SHADING 7
→ BLACK ACTIVE
WHITE ON
Close the lens automaticaly
Shading function
Open the lens automaticaly
ACTIVE ⇨ ON
*SHADING 7
→ BLACK ON
WHITE ON
SW12: OFF
(On the Sync P.C.Board)
END

8-2. White Shading Adjustment

<Set up the Camera and Light Box>


Light Box
(Spherical Type)
Flat pattern
without shading
0.5 m
Set the zoom
position to
be centered.
AQ-20D

(1) DEFOCUS
(2) ND FILTER: 2
(3) Set Lens Iris, so that output is 70IRE unit. P(4-11)
(4) NO CHART

START

↓

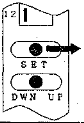
SW12: ON
(On the Sync P.C.Board)

↓

EVF

Select the Shading page

Sync P.C.Board

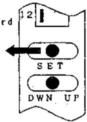

12
SET
DWN UP

```
*SHADING        7

→BLACK          ON
 WHITE          ON
```

↓

Select the WHITE

Sync P.C.Board


12
SET
DWN UP

```
*SHADING        7

 BLACK          ON
→WHITE          ON
```

↓

AWB SW: ON

↓

ON ⇒ ACTIVE

```
*SHADING        7

 BLACK          ON
→WHITE      ACTIVE
```

↓

Shading function

↓

ACTIVE ⇒ ON

```
*SHADING        7

 BLACK          ON
→WHITE          ON
```

↓

SW12: OFF
(On the Sync P.C.Board)

↓

END

8-3. Flare Correction Adjustment

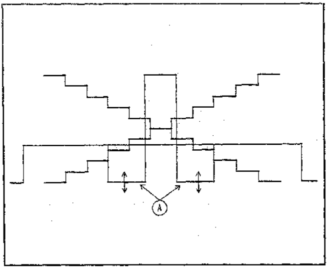
Board	
T.P.	Video Out, Monitor Out (R/G/B)
Adj.	User Switch (on the SYNC P.C.Board)
F.NBR.	F 2.8 (1600XL)
Chart	Gray scale
M.EQ.	W.F.M.
Spec.	------

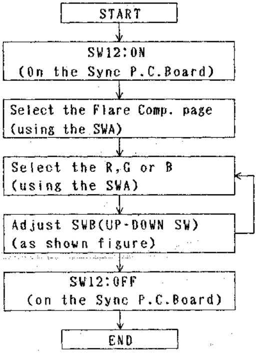
Step 1

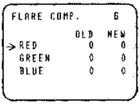
Select the Monitor select switch (R/G/B) alternately and observe the level of (A) portions (Black Level) on the R/G/B signals.

Step 2

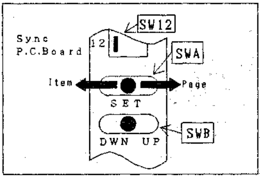
Adjust the level of (A) portion only for two of the R, G and B signals by using the user switch as shown bellow so that the level of (A) portion on the R, G and B signal is lowest level.




START
SW12:ON
(On the Sync P.C.Board)
Select the Flare Comp. page
(using the SWA)
Select the R,G or B
(using the SWA)
Adjust SWB(UP-DOWN SW)
(as shown figure)
SW12:OFF
(on the Sync P.C.Board)
END



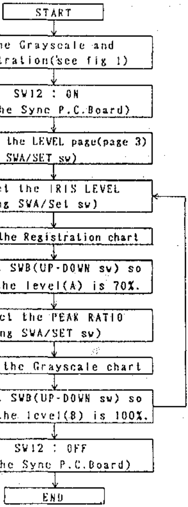
```
FLARE COMP.      6

            OLD  NEW
→RED         0    0
 GREEN       0    0
 BLUE        0    0
```


Sync
P.C.Board
12
SW12
SWA
Item
Page
SET
SWB
DWN
UP

8-4. Auto Iris Adjustment

Board	
T.P.	Monitor Out (ENC)
Adj.	User Switch (on the SYNC P.C.Board)
F.NBR.	F8 (1600LX)
Chart	Grayscale, Registration
M.EQ.	W.F.M.
Spec.	------

Note: Set the iris Gain (Speed on the Lens) to MAX without hunting


START

Set the Grayscale and Registration(see fig 1)

SW12 : ON (on the Sync P.C.Board)

Select the LEVEL page(page 3) (using SWA/SET sw)

Select the IRIS LEVEL (using SWA/Set sw)

Shoot the Registration chart

Adjust SWB(UP-DOWN sw) so that the level(A) is 70%.

Select the PEAK RATIO (using SWA/SET sw)

Shoot the Grayscale chart

Adjust SWB(UP-DOWN sw) so that the level(B) is 100%.

SW12 : OFF (on the Sync P.C.Board)

END

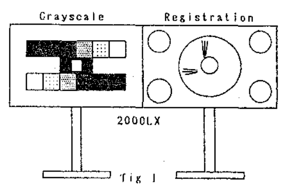
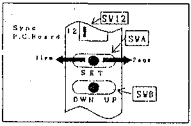
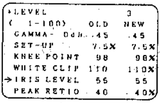
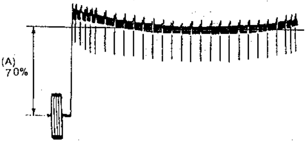

Grayscale
Registration
2000LX

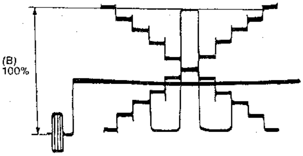
Fig 1


Sync P.C.Board
12
SW12
SWA
Item
Page
SET
DWN UP
SWB

EVF


```
*LEVEL                  3
(   1-100)     OLD    NEW
 GAMMA- OdB.. .45     .45
 SET-UP        7.5%   7.5%
 KNEE POINT    98     98%
 WHITE CLIP   110    110%
→IRIS LEVEL    55     55
 PEAK RETIO    40     40%
```





PAL Electrical Adjustment Procedures

Recommended Test and Measuring Equipments

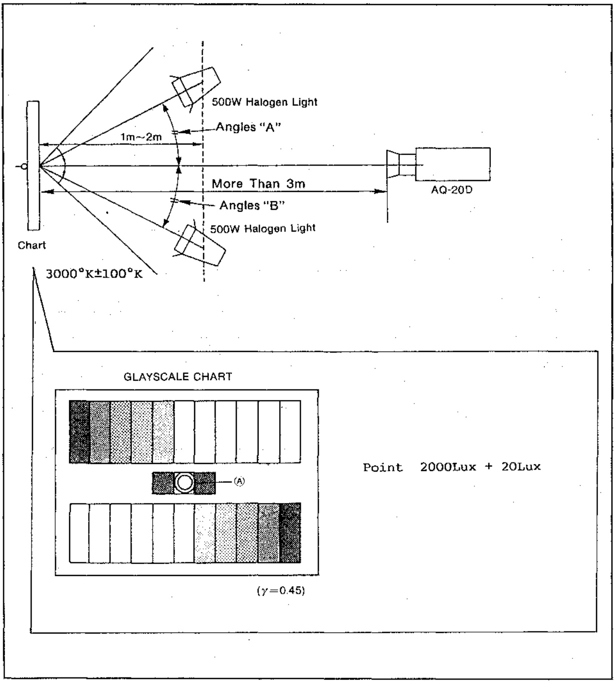
The following test and measuring equipments are required to conduct the electrical adjustments.

Model No. or Equivalent	**Equipment**	**Remark**
2467B TEKTRONIX	Dual Trace Oscilloscope	More than 100MHz
1485R TEKTRONIX	Wave Form Monitor	
521A TEKTRONIX	Vector Scope	
1751 TEKTRONIX	SCH Meter	
1411 TEKTRONIX	Digital Signal Generator	
	Digital Volt Meter (D.V.M.)	
	Frequency Counter	
	DC Power Supply	12VDC More than 5A
MINOLTA	Colour Pyrometer and LUX Meter	20 - 20,000LUX
VFK0645	Grayscale Chart	11 Steps, γ=0.45 Black=2.0% Reflection
VFK0673	Registration Chart	
	Lighting	2000LUX, 3200°K (500W)
PORTA PATTERN	Light Box (Spherical Type)	White Flat Pattern without any Shading
	Transparency Charts for Light Box	This is not required for Electrical Adjustment.
CANON or FUJINON or NIKON	Zoom Lens	CANON : *****-NX12 FUJINON : *****-28 NIKON : *****-20

Setting up for Lighting

In order to illuminate the surface of the chart in the following specifications, the following lighting system is one of the recommended system.

1. Distance between camera and test chart should be more than 3m as shown bellow.
2. Lighting angles "A" and "B" should be equal as shown bellow.
3. Lighting should be the following conditions.
   Lamp : Halogen lamps x2 (500W x2)
   Lux : 1,600 Lux +20Lux at "A" point
4. The room should be closed by a black curtain.

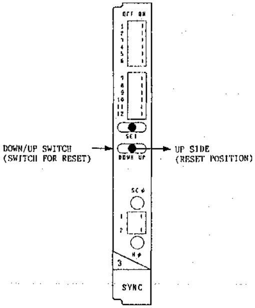

500W Halogen Light
Angles "A"
1m~2m
More Than 3m
Angles "B"
500W Halogen Light
AQ-20D
Chart
3000°K±100°K
GLAYSCALE CHART
(A)
Point 2000Lux + 20Lux
(γ=0.45)

Service Information

Camera Reset

The camera reset function is used to reset the data of camera user settings.
When the camera reset is performed, the user settings and AWB/ABB data will change to the factory standard settings except White and Black Shading data.

1. Turn the power switch off.
2. Remove the right side cover.
3. The user set switch and DIP switches will be visible on the Sync P.C.Board.
4. Set the UP/DOWN switch to right (UP) side and keep this condition.
5. Turn the power switch on and release the UP/DOWN switch.

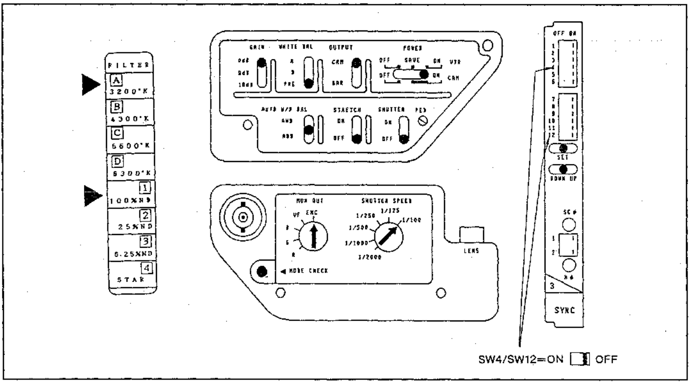

OFF ON
1
2
3
4
5
6
7
8
9
10
11
12
SET
DOWN/UP SWITCH
(SWITCH FOR RESET)
DOWN UP
UP SIDE
(RESET POSITION)
SC ϕ
1
2
H ϕ
3
SYNC

Position of Controls and Switches

Unless otherwise specified, set the controls and switches on the Camera Recorder as shown bellow.

Switch		Position					
Front	CC Filter	A. 3200°K	B.4300°K	C. 5600°K	D. 6300°K		
		○					
	ND Filter	1. 100% ND	2. 25%ND	3. 6.25%ND	4. STAR		
		○					
Right Side	Gain	0dB	9dB	18dB			
		○					
	Out Put	CAM	BAR				
		○					
	White Bal Mem	A	B	PRE			
				○			
	Stretch	ON	OFF				
		○					
	Shutter	ON	OFF				
		○					
Left Side	Monitor Out	R	G	B	VF	ENC	
						○	
	Shutter Speed	1/100	1/125	1/250	1/500	1/1000	1/2000
		○					
Sync P.C.Board	* User Set Switch	1	2	3	4	5	6
		ON	ON	ON	OFF	ON	ON
		7	8	9	10	11	12
		ON	ON	ON	ON	ON	OFF

* All dip switches set to Right side


FILTER
A 3200°K
B 4300°K
C 5600°K
D 6300°K
1 100%ND
2 25%ND
3 6.25%ND
4 STAR
GAIN
WHITE BAL
OUTPUT
POWER
0dB
9dB
18dB
A
B
PRE
CAM
BAR
OFF
SAVE
ON
VTR
OFF
ON
CAM
AUTO W/B BAL
STRETCH
SHUTTER
PED
AWB
ABB
ON
OFF
ON
OFF
MON OUT
SHUTTER SPEED
VF
ENC
B
G
R
1/250
1/125
1/100
1/500
1/1000
1/2000
MODE CHECK
LENS
OFF ON
1
2
3
4
5
6
7
8
9
10
11
12
SET
DOWN UP
SC φ
1
2
3
H φ
SYNC
SW4/SW12=ON OFF

1. Power Supply Section

1-1. Voltage Adjustment

Board	Camera Power
T.P.	EXTP3
Adj.	VR1 [+8.6V]
F.NBR.	------
Chart	------
M.EQ	D.V.M.
Spec.	DC 8.6V (±0.05V)

2. Pre-AMP, Pulse, CCD Drive Section

2-1. OG Voltage Pre-Adjustment

Board	OG Adj.
T.P.	point A,B,C (fig. 1)
Adj.	VR1 [R OG] VR2 [G OG] VR3 [B OG]
F.NBR.	------
Chart	------
M.EQ.	D.V.M.
Spec.	+8VDC

Step 1

D.V.M. : point A (R)

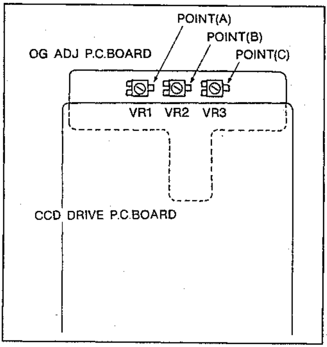
Step 2

Adjust VR1 (R) so that DC level is +8VDC at the point (A).

Step 3

Perform the same adjustment Step 1 and Step 2 for the Green and Blue channel.

Green	:	point B / Adj. VR2
Blue	:	point C / Adj. VR3


POINT(A)
POINT(B)
OG ADJ P.C.BOARD
POINT(C)
VR1
VR2
VR3
CCD DRIVE P.C.BOARD

3. SYNC Section 1

3-1. SC Level & Frequency Adjustment

Board	SYNC
T.P.	EXTP26
Adj.	VR10[SC LVL](D-2), X1[SC Frq](D-4)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope Frequency Counter (VP-4545A)
Spec.	A = 1Vp-p(±0.01V), SC= 4.43361875MHz(±1Hz)

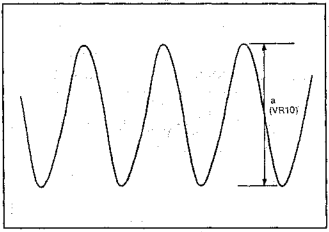
[Condition]
Gen Lock : OFF

Step 1
Scope CH1 : EXTP26 200mV/D, 100μs/D

Step 2
Adjust VR10 so that the (a) portion is 1Vp-p (±0.01V).

Step 3
Freq. counter :EXTP26

Step 4
Adjust X1 so that the SC frequency is 4.43361875 (±1Hz).



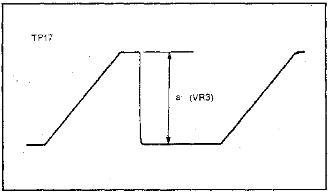
3-2. TEST Signal Level Adjustment

Board	SYNC
T.P.	EXTP17
Adj.	VR3 [TEST LVL](G-4)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	a = 1.7Vp-p (±0.01V)

[SW Position]
SW4 (SYNC P.C.Board) : ON (TEST Mode)

Step 1
Scope CH1 : EXTP17 500mV/D, 10μs/D

Step 2
Adjust VR3 so that the (a) portion is 1.7Vp-p (±0.01V)



4. Encoder Section

4-1. Black Balance Adjustment 1

Board	Encoder
T.P.	Video Out, EXTP19(Trigger)
Adj.	VR19[PAL BAL-1](C-4), VR20[PAL BAL-2](C-4)
F.NBR.	------
Chart	------
M.EQ.	W.F.M., Oscilloscope
Spec.	as shown figure

[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- 75Ω terminate

Step 1

WFM : Video Out
(set the WFM to 2 line mode)
Scope CH1 : IC8-Pin 10 1VD/20μSd.

Step 2

Turn VR19 to clockwise until the waveform is changed as shown figure 1-a, and measure the DC voltage at IC8 Pin 10 : (X)V.

Step 3

Turn VR19 to counterclockwise until waveform is changed as shown figure 1-b, and measure the DC voltage at IC8 Pin 10 : (Y)V.

Step 4

Adjust VR19 so that the DC voltage is centered between (X)V and (Y)V at IC8 - Pin 10.

Step 5

Scope CH1 : IC8 - Pin 6 200mVD/20μSd

Step 6

Adjust VR20 so that waveform is linear as shown figure 2.

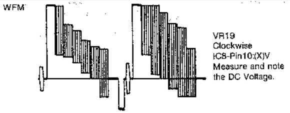


Fig. 1-a

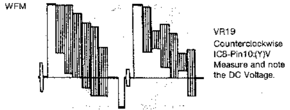


Fig. 1-b

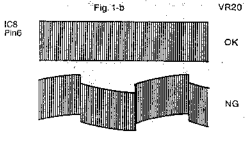


Fig. 2

4-2. Black Balance Adjustment 2

Board	Encoder
T.P.	Video Out
Adj.	VR11[BLK BAL 1](E-6), VR12[BAL-1](E-5), VR16[BLK BAL 2](B-6), VR17[BAL-2](C-5)
F.NBR.	------
Chart	------
M.EQ.	Vectorscope
Spec.	as shown figure

[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- 75Ω terminate

Step 1

Vectorscope : Video Out
(set gain is MAX)

Step 2

Adjust VR16 so that to 2 dots of Black (A) are parallels on the U axis as shown figure 1. (2 dots move parallel)

Step 3

Adjust VR12 so that 2 dots of Black (A) becomes one dot as shown figure 1.

Step 4

Adjust VR11 so that Black dot (B) is on the V axis as shown figure 2.

Step 5

Adjust VR16 and VR17 so that Black dot (B) is on the cross point of V axis and U axis.

Fig. 1

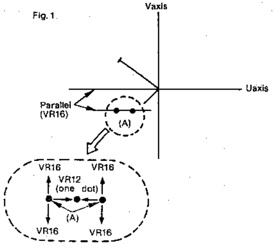
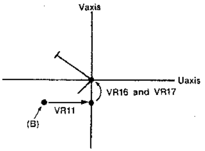


Fig. 2



4-3. Monitor Output Level Adjustment

Board	Encoder
T.P.	Monitor Out (ENC position)
Adj.	VR3[VIDEO](G-6), VR1[SYNC](H-3)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	a = 0.7Vp-p, b = 0.3Vp-p

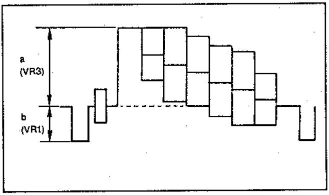
[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- 75Ω terminate

Step 1
WFM : Video Out

Step 2.
Adjust VR3 so that the (a) portion is 0.7Vp-p.

Step 3
Adjust VR1 so that the (b) portion is 0.3Vp-p.



4-4. Chroma Phase Adjustment 1

Board	Encoder
T.P.	TP5(C-5), Video Out
Adj.	VR10[Q GAIN](D-4)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope, Vectorscope
Spec.	a = 550mVp-p

[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- GEN LOCK : ON
- Set the Vectorscope in the EXT Reference Mode
- 75Ω terminate

Step 1
Scope CH1 : TP5 100mV/D, 10μs/D

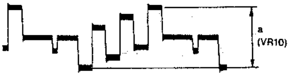
Step 2
Adjust VR10 so that the (a) portion is 550mVp-p.

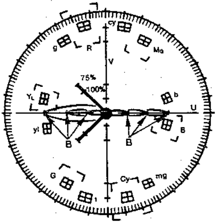
Step 3
Set SW4 (A-3) to OFF

Step 4
Vectorscope : Video Out

Step 5
Adjust the phase VR on the Vectorscope so that the U phase of the Vectorscope and signal is matched each other, and adjust the gain VR on the Vectorscope so that the level markers (B) on the Vectorscope and U signal gain are matched each other.

Step 6
Continue to the next page.





4-5. Chroma Phase Adjustment 2

Board	Encoder
T.P.	Video Out
Adj.	VR15[I GAIN](A-4), VC2[90°φ](D-3)
F.NBR.	------
Chart	------
M.EQ.	Vectorscope
Spec.	as shown figure

[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- GEN LOCK : ON (BBS IN)
- Set the Vectorscope in the EXT Reference Mode
- 75Ω terminate

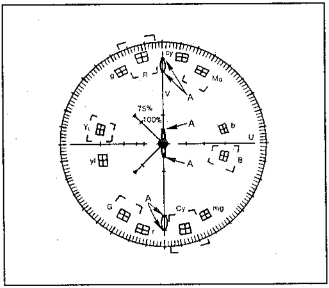
Step 7
Set SW4 (A-3) to ON and SW3 (E-5) to OFF.

Step 8
Adjust VC2 so that the V signal matches the V axis of the Vectorscope.

Step 9
Adjust VR15 so that the V signal gain matches the Level Markers (A) of the Vectorscope.

Step 10
Set SW3 (E-5) to ON

Step 11
Set the Gain VR of the Vectorscope in the Calibration mode.



4-6. Chroma Phase Adjustment 3

Board	Encoder
T.P.	Video Out
Adj.	VR7[CHROMA](F-6), VR22[BURST φ](D-4), VR21[BURST](E-3)
F.NBR.	------
Chart	------
M.EQ.	W.F.M., Vectorscope
Spec.	a = 0.3Vp-p

[SW Position]
- CAM/BAR Select SW : BAR

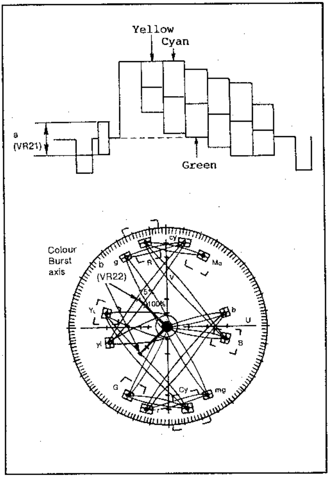
[Condition]
- GEN LOCK : ON (BBS IN)
- 75Ω terminate

Step 1
1. Adjust VR7 so that the each chroma phase is in the Inner Box of Vectorscope.
2. Confirm that the upper level of the Yellow and Cyan is 0.7V, and lower level of the Green is 0V.

Step 2
Adjust VR22 so that the Burst phase matches the Colour Burst axis as shown figure.

Step 3
Adjust VR21 so that the Burst Level (a) is 0.3Vp-p.

Step 4
Confirm that the each chroma phase is in the Inner Box of Vectorscope.
If it is not, repeat Procedures 4-4, 4-5, 4-6, "Chroma phase Adjustment".



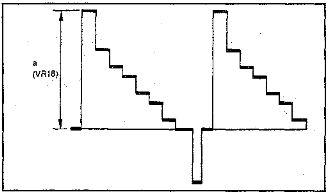
4-7. Monitor Level Adjustment

Board	Encoder
T.P.	Monitor Out (VF position)
Adj.	VR18 [MON](E-1)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	a = 0.7V

[SW Position]
- CAM/BAR Select SW : BAR

[Condition]
- 75Ω terminate

Step 1
Adjust VR18 so that the (a) portion is 0.7Vp-p.



4-8. Component Output Level Adjustment

Board	Encoder
T.P.	EXTP33 (B-Y), EXTP34 (R-Y) EXTP35 (Y), EXTP37 (ENC)
Adj.	VR4[GAIN](H-5), VR5[OFF SET](F-3), VR6[Y](H-3), VR8[R-Y](B-1), VR13[B-Y](A-1)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	A=0.7Vp-p, B=0.3Vp-p, C=0.525Vp-p D=0.525Vp-p, E=2Vp-p

[SW Position]
- CAM/BAR Select SW : BAR

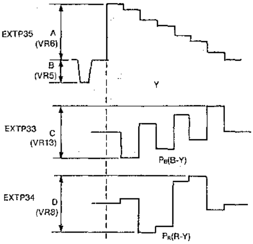
[Condition]
Attach AU-410
(for terminate the 79pin connector)

Step 1
Scope CH1 : EXTP35 200mV/D, 10μs/D
Adjust VR6 so that portion (A) is 0.7Vp-p and Adjust VR5 so that (B) portion is 0.3Vp-p.

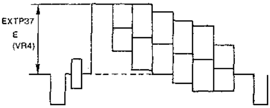
Step 2
Scope CH1 : EXTP34 200mV/D, 10μs/D
Adjust VR8 so that portion (C) is 0.525Vp-p.

Step 3
Scope CH1 : EXTP33 200mV/D, 10μs/D
Adjust VR3 so that portion (D) is 0.525Vp-p.

Step 4
Scope CH1 : EXTP37 200mV/D, 10μs/D
Adjust VR4 so that portion (E) is 2Vp-p.



(1KΩ termination)

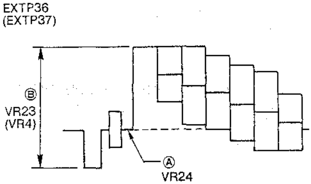


(75Ω termination)

4-9. Composite output Level Adjustment

Board	Encoder
T.P.	EXTP36, EXTP37
Adj.	VR23 (GAIN), VR24 (OFF SET) VR4 (GAIN)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	A = 0V DC, B = 1Vp-p

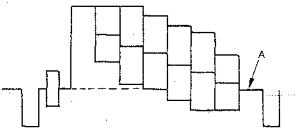
[SW Position]
· CAM/BAR Select SW : BAR
[Condition]
· Video OUT : 75Ω terminate
Step 1
Scope CH1 : EXTP36 200mV/D, 10μs/D
Step 2
Adjust VR24 so that DC level of (A) portion is 0V DC.
Step 3
Adjust VR23 so that (B) portion is 1Vp-p.
Step 4
Scope CH1 : EXTP37 200mV/D, 10μs/D
Step 5
Adjust VR4 so that (B) portion is 1Vp-p.



4-10. Carrier Leak Adjustment

Board	Encoder
T.P.	Monitor Out (ENC Position)
Adj.	VR11[BLK BAL 1](E-6) VR16[BLK BAL 2](B-6)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	A=Minimum

[SW Position]
· CAM/BAR Select SW : BAR
[Condition]
· Video OUT : 75Ω terminate
Step 1
Scope CH1 : EXTP36 200mV/D, 10μs/D
Step 2
Adjust VR24 so that DC level of (A) portion is 0V DC.
Step 3
Adjust VR23 so that (B) portion is 1Vp-p.
Step 4
Scope CH1 : EXTP37 200mV/D, 10μs/D
Step 5
Adjust VR4 so that (B) portion is 1Vp-p.



5. Pre Process Selection

5-1. Pedestal Adjustment 1

Board	Pre Process
T.P.	EXTP24,EXTP25,EXTP26
Adj.	M-PED VR
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	2.0VDC (±0.1V)

Step 1

Reset the camera.

<How to reset the camera>

1) Turn the Power SW off.
2) Set the DWN/UP SW on the SYNC P.C.Board to right side (Up) and keep this condition.
3) Then turn the Power SW on and release DWN/UP SW.

After reset the camera, all User data change to the factory data except the shading data.

Step 2

Confirm that the DC level is 2.0VDC (±0.1V) at EXTP24,25,26.

If these are not 2.0V, adjust M-PED (Master - Pedestal) on the Left Side panel so that DC level is 2.0VDC.

Step 3

If the voltage at each Test Point can not be adjust within 2.0VDC, reset the camera again. And readjust the M-PED VR.

5-2. Pedestal Adjustment 2

Board	Pre Process
T.P.	EXTP33(R),EXTP34(G),EXTP35(B), EXTP30 (Trigger)
Adj.	VR102[R PED](H-4), VR202[G PED](E-4), VR302[B PED](B-4)
F.NBR.	C (Close)
Chart	------
M.EQ.	Oscilloscope
Spec.	as shown figure

Note:

Adjustment "4-1 Pedestal Adjustment 1" should be completed before starting this adjustment.

Step 1

Scope : EXTP33 (Red) 100mV/D, 10μs/D

Step 2

Adjust VR102 (Red) so that the Black level and the Blanking level become the same level as (A) when Iris is closed.

Step 3

Perform the same adjustment steps 1 and 2 for the Green and Blue.

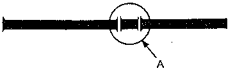
Green : EXTP34 / Adj. VR202

Blue : EXTP35 / Adj. VR302

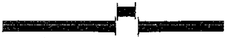
EX TP33 (R) → VR102

EX TP34 (G) → VR202

EX TP35 (B) → VR302



(Good)



(NG)

5-3. TEST Signal Level Adjustment 1

Board	Pre Process
T.P.	TP101(R)(H-5), TP201(G)(E-5), TP301(B)(C-5), EXTP30 (Trigger)
Adj.	VR101[R TEST](H-5), VR201[G TEST](E VR301[B TEST](C-5)
F.NBR.	------
Chart	------
M.EQ.	Oscilloscope
Spec.	A = 666mVp-p

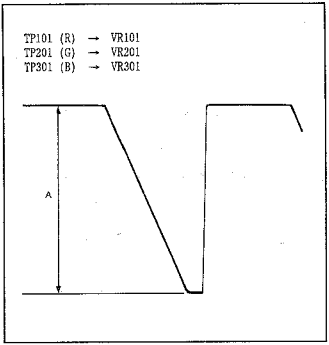
[SW Position]
SW4 : ON (TEST mode)
(On the SYNC P.C.Board)
GAIN = 0dB
WHITE BAL = PRE

Step 1
Scope CH1 : TP101 (Red) 100mV/D, 10μs/D

Step 2
Adjust VR101 (Red) so that the TEST signal Level (A) is 666mVp-p.

Step 3
Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : TP201 / Adj. VR201
Blue : TP301 / Adj. VR301



5-4. A/D Input Gain Adjustment

Board	Pre Process
T.P.	Monitor out (R/G/B position)
Adj.	VR104 [R A/D](H-3), VR204[G A/D](E-3), VR304[B A/D](C-3)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	as shown figure

[SW Position]
Gain : 9dB (on Right Side SW Panel)
SW4 : ON (TEST mode)
(on the sync P.C.Board)

Step 1
Turn the ABB SW to ON. (on the FRONT SW Panel)

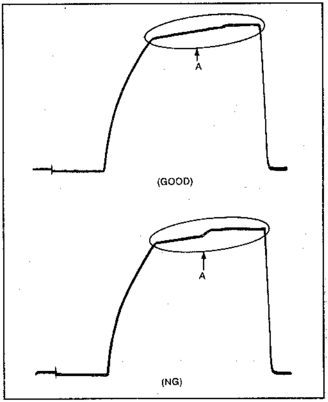
Step 2
Set the Monitor Select SW to R position.

Step 3
Adjust VR104 (Red) so that the A portion is flat as shown figure.

Step 4
Perform the same adjustment steps 1, 2 and 3 for the Green and Blue.
Green : Monitor Out / Adj. VR204
Blue : Monitor Out / Adj. VR304

Step 5
Confirm that the R.G and Bch is the same waveform as shown figure. If it is not, repeat steps 1 to 4 for R, G and B.

Step 6
Turn SW4 to OFF position and Gain SW to 0dB position.



5-5. TEST Signal Level Adjustment 2

Board	Pre Process
T.P.	Monitor out (R/G/B position)
Adj.	VR101[R TEST](H-5), VR201[G TEST](E-5), VR301[B TEST](C-5)
F.NBR.	------
Chart	------
M.EQ.	W.F.M.
Spec.	A = 0.7Vp-p

[SW Position]

- Gain : 0dB (on the Right Side SW Panel)
- SW4 : ON (TEST mode)
- WHITE BAL : PRE (on the Right Side SW Panel)

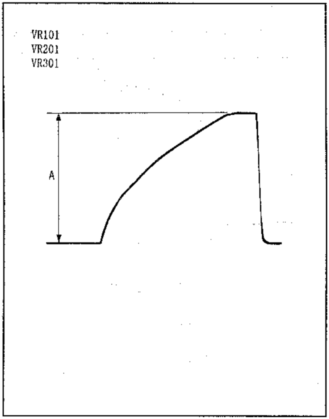
Step 1
Set the Monitor Select SW to R position.

Step 2
Adjust VR101 (Red) so that TEST signal Level (A) is 0.7Vp-p.

Step 3
Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : Monitor Out / Adj. VR201
Blue : Monitor Out / Adj. VR301

Step 4
Turn SW4 to OFF position.



5-6. Pre Gamma Correction input Gain Adjustment

Board	Pre Process
T.P.	Monitor Out (R/G/B position)
Adj.	VR100[R GAIN](F-4), VR200[G GAIN](D-4), VR300[B GAIN](A-4)
F.NBR.	F8 (1600LX)
Chart	Gray scale
M.EQ.	W.F.M.
Spec.	A = 0.7Vp-p

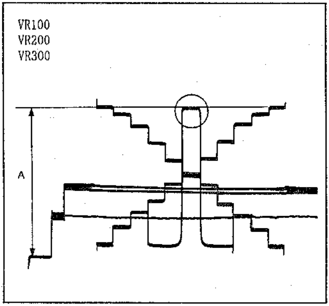
Step 1
Set the Monitor Select SW to R position.

Step 2
Adjust VR100 (Red) so that the signal Level (A) is 0.7Vp-p.

Step 3
Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : Monitor Out / Adj. VR200
Blue : Monitor Out / Adj. VR300

Step 4
Confirm that the R, G and Bch are same waveform as shown figure.
If it is not, repeat Steps 1 to 3.



5-7. Shading Correction Adjustment

Board	Pre Process
T.P.	EXTP33(R),EXTP34(G),EXTP35(B), EXTP30 (Trigger)
Adj.	VR103[R SHAD BAL](F-5), VR203[G SHAD BAL](D-5), VR303[B SHAD BAL](A-5)
F.NBR.	F 8 (1600LX)
Chart	Gray scale
M.EQ.	Oscilloscope
Spec.	as shown figure

Step 1

Scope CH1 : EXTP33 (Red) 100mV/D, 10μs/D

Step 2

Perform the Auto White Shading.

1. Set the SW12 (SYNC P.C.B.) to ON position. (User Setting Mode)
2. Select the Shading Page by using the PAGE SW.
3. Select the White by using the ITEM SW.
4. Shoot the gray scale chart.
5. Turn the AWB SW to on.

Step 3

Close the IRIS, and adjust VR103 so that carrier is minimized as shown figure.

Step 4

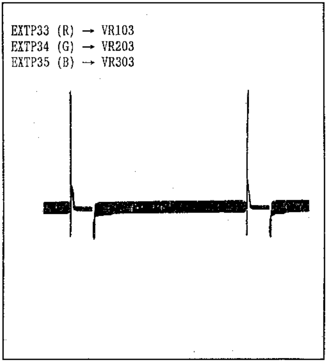
Perform the same adjustment steps 1 and 2 for the Green and Blue.

Green : EXTP34 / Adj. VR203
Blue : EXTP35 / Adj. VR303

Step 4

SW12 (SYNC P.C.B.) : OFF

Perform the white shading again with no shading white chart.



5-8. Master Pedestal Tracking Adjustment

Board	Pre Process
T.P.	Monitor Out (ENC position)
Adj.	VR105[R PED TRACK](H-3), VR305[B PED TRACK](C-3)
F.NBR.	C (Close)
Chart	------
M.EQ.	Vectorscope (Gain MAX) W.F.M.
Spec.	as shown figure

Step 1

Adjust the Master Pedestal VR (on the LEFT side SW) so that the Pedestal Level is 0%.

Step 2

Turn the ABB SW to on.
(on the Front panel)

Step 3

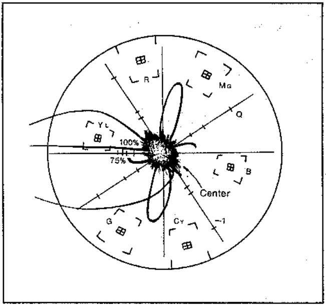
Adjust the Master Pedestal VR so that the Pedestal Level is maximum.

Step 4

Set the gain VR of the Vectorscope to maximum. Adjustment VR105 and VR305 so that Carrier is center position of the Vectorscope as shown figure. And Repeat Step 1 to Step 4 a few times.

Step 5

After this Adjustment, Adjust the Master Pedestal VR (on the right side SW) so that the Pedestal level is 0%.



6. SYNC Section 2

6-1. SYNC Phase Adjustment

Board	SYNC
T.P.	Video Out, Monitor Out (ENC)
Adj.	VR4[BF PHASE](F-5),VR5[BV WITH](G-5), VR7[D SYNC W](J-5),VR8[D SYNC P](J-5), VR9[SCH Ø](D-2)
F.NBR.	F 8 (1600LX)
Chart	Gray scale
M.EQ.	W.F.M. Oscilloscope SCH Meter VFK0604 (External DC cable)
Spec.	a = 1.5μs(±0.05μs), b = 4.7μs(±0.05μs), c = 5.6μs(±0.01μs), d = 9 cycle e = 1.5μs(±0.03μs), f = SCH 0°

[Condition]

Gen Lock : OFF
Power Supply : Use VFK0604
(External DC Cable)

Step 1
WFM : Video Out

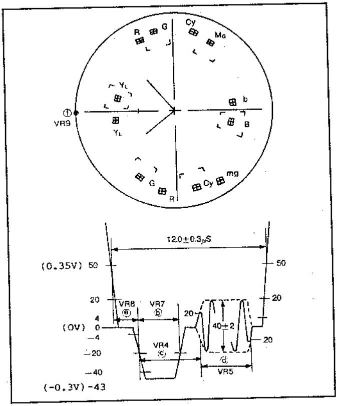
Step 2
Adjust VR8 so that the (e) portion is 1.5μs (±0.3μs).
(50%~20%)

Step 3
Adjust VR7 so that the (b) portion is 4.7μs (±0.05μs).
(-20% ~ 0%)

Step 4
Adjust VR4 so that the (c) portion is 5.6μs (±0.1μs).
(-20% ~ 0%)

Step 5
Adjust VR5 so that the Burst (d) is 2.25μs. (10cycle).

Step 6
· Connect the SCH meter to the Video Out.
· Adjust VR9 so that the SCH is 0° (f).



7. OG Section

7-1. OG Voltage Adjustment

Board	OG Adj.
T.P.	Monitor Out (ENC/R/B)
Adj.	VR1[R OG], VR2[G OG], VR3[B OG]
F.NBR.	F 8 (1600LX)
Chart	Gray Scale
M.EQ.	W.F.M
Spec.	as shown figure

[SW Position]
Set the standard position.

Step 1
Set the White BAL SW and Monitor Select SW as follows
White Bal : A position
Monitor Select : Enc position
Turn the AWB SW to on.

Step 2
Check the white tracking at the white portion of the grayscale when set the Iris position so that the video level is 40%. (Fig. 1)

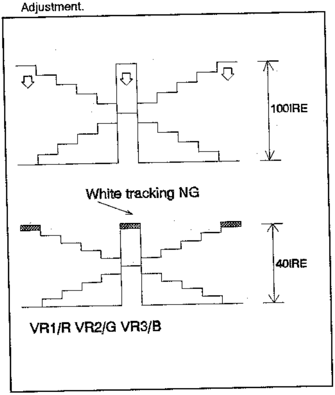
Step 3
If white tracking is bad condition (Fig. 1), Check the Signal level for each R, G, and B signal by the Monitor Out.

Step 4
Adjust VR1, VR2 and VR3 so that the signal level is same level each R, G, and B signals.

Step 5
Readjust the 5-6 Pre Gamma correction Input Gain Adjustment.

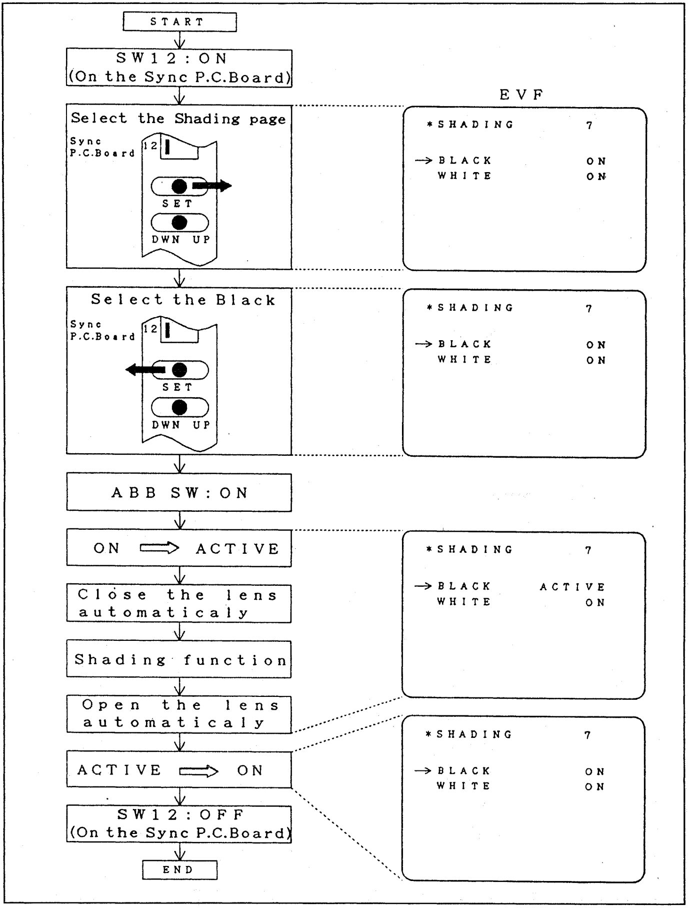
Step 6
Repeat Step 2 to 5 a few times.

Step 6
After this adjustment, readjust the 8-3 Flare Correction Adjustment.

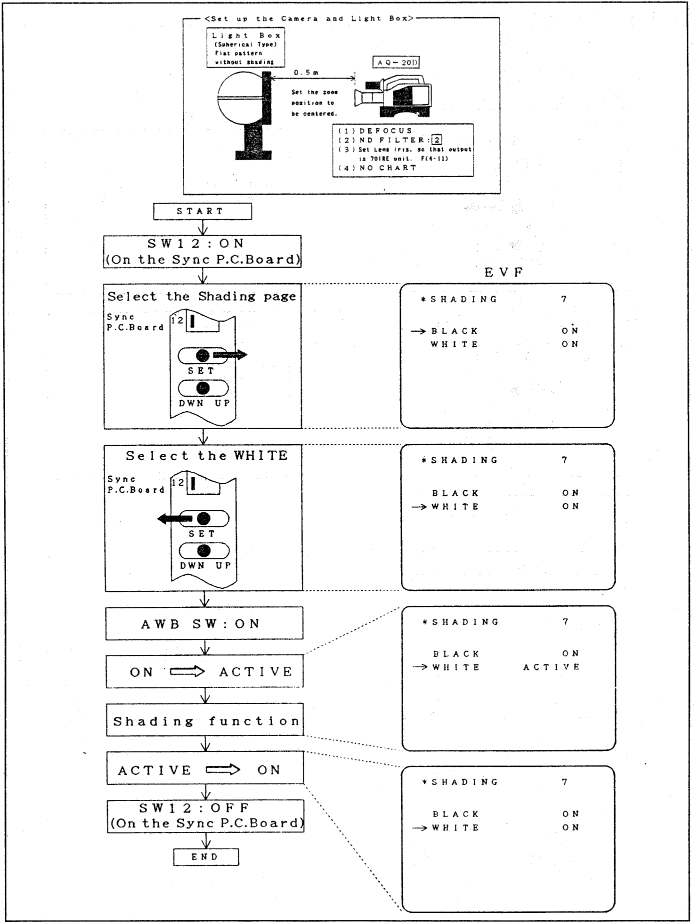


8. User Setting Adjustment

8-1. Black Shading Adjustment


START
SW12 : ON
(On the Sync P.C.Board)
EVF
Select the Shading page
Sync P.C.Board
12
SET
DWN UP
*SHADING 7
→BLACK ON
WHITE ON
Select the Black
Sync P.C.Board
12
SET
DWN UP
*SHADING 7
→BLACK ON
WHITE ON
ABB SW : ON
ON ⟹ ACTIVE
*SHADING 7
→BLACK ACTIVE
WHITE ON
Close the lens automaticaly
Shading function
Open the lens automaticaly
ACTIVE ⟹ ON
*SHADING 7
→BLACK ON
WHITE ON
SW12 : OFF
(On the Sync P.C.Board)
END

8-2. White Shading Adjustment



<Set up the Camera and Light Box>

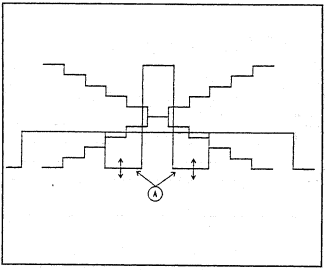
(1) DEFOCUS
(2) ND FILTER: 2
(3) Set Lens Iris, so that output is 70IRE unit. F(4-11)
(4) NO CHART

Set the zoom position to be centered.

Light Box
(Spherical Type)
Flat pattern
without shading
AQ-20D
0.5m
START
SW12: ON
(On the Sync P.C.Board)
EVF
Select the Shading page
Sync
P.C.Board
12
SET
DWN UP
*SHADING 7
→ BLACK ON
WHITE ON
Select the WHITE
Sync
P.C.Board
12
SET
DWN UP
*SHADING 7
BLACK ON
→ WHITE ON
AWB SW: ON
ON ⟹ ACTIVE
*SHADING 7
BLACK ON
→ WHITE ACTIVE
Shading function
ACTIVE ⟹ ON
*SHADING 7
BLACK ON
→ WHITE ON
SW12: OFF
(On the Sync P.C.Board)
END

8-3. Flare Correction Adjustment

Board	
T.P.	Video Out, Monitor Out (R/G/B)
Adj.	User Switch (on the SYNC P.C.Board)
F.NBR.	F 2.8 (1600LX)
Chart	Gray scale
M.EQ.	W.F.M.
Spec.	------

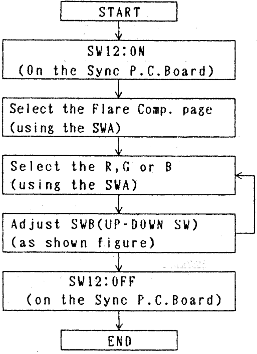


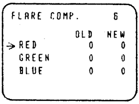
Step 1

Select the Monitor select switch (R/G/B) alternately and observe the level of (A) portions (Black Level) on the R/G/B signals.

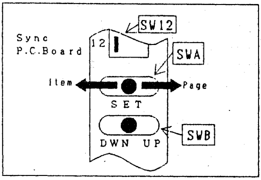
Step 2

Adjust the level of (A) portion only for two of the R, G and B signals by using the user switch as shown bellow so that the level of (A) portion on the R, G and B signal is lowest level.


START
SW12:ON
(On the Sync P.C.Board)
Select the Flare Comp. page
(using the SWA)
Select the R,G or B
(using the SWA)
Adjust SWB(UP-DOWN SW)
(as shown figure)
SW12:OFF
(on the Sync P.C.Board)
END



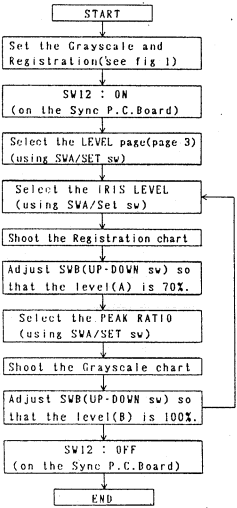
```
FLARE COMP.        6

              OLD  NEW
->RED          0    0
  GREEN        0    0
  BLUE         0    0
```


Sync
P.C.Board
SW12
12
SWA
Item
Page
SET
SWB
DWN
UP

8-4. Auto Iris Adjustment

Board	
T.P.	Monitor Out (ENC)
Adj.	User Switch (on the SYNC P.C.Board)
F.NBR.	F 8 (1600LX)
Chart	Gray scale, Registration
M.EQ.	W.F.M.
Spec.	------

Note: Set the iris Gain (Speed on the Lens) to MAX without hunting



START

Set the Grayscale and Registration(see fig 1)

SW12 : ON (on the Sync P.C.Board)

Select the LEVEL page(page 3) (using SWA/SET sw)

Select the IRIS LEVEL (using SWA/Set sw)

Shoot the Registration chart

Adjust SWB(UP-DOWN sw) so that the level(A) is 70%.

Select the PEAK RATIO (using SWA/SET sw)

Shoot the Grayscale chart

Adjust SWB(UP-DOWN sw) so that the level(B) is 100%.

SW12 : OFF (on the Sync P.C.Board)

END

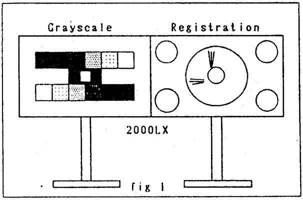
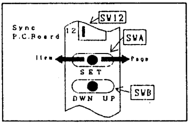
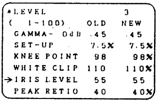

Grayscale
Registration
2000LX

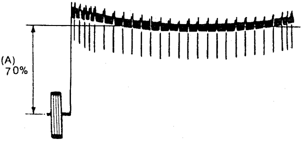
Fig 1

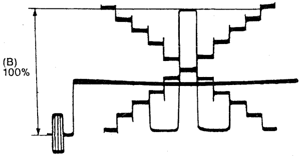

Sync P.C.Board
SW12
12
SWA
Item
Page
SET
DWN
UP
SWB

EVF

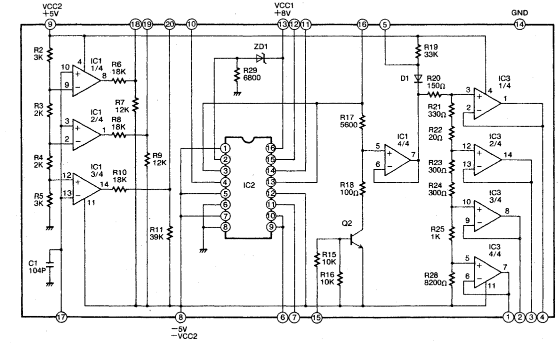


```
*LEVEL                    3
(   1-100)       OLD    NEW
 GAMMA-  OdB     .45    .45
 SET-UP          7.5%   7.5%
 KNEE POINT       98     98%
 WHITE CLIP      110    110%
→IRIS LEVEL       55     55
 PEAK RETIO       40     40%
```

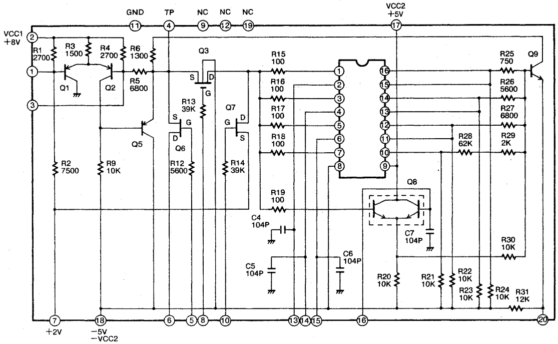




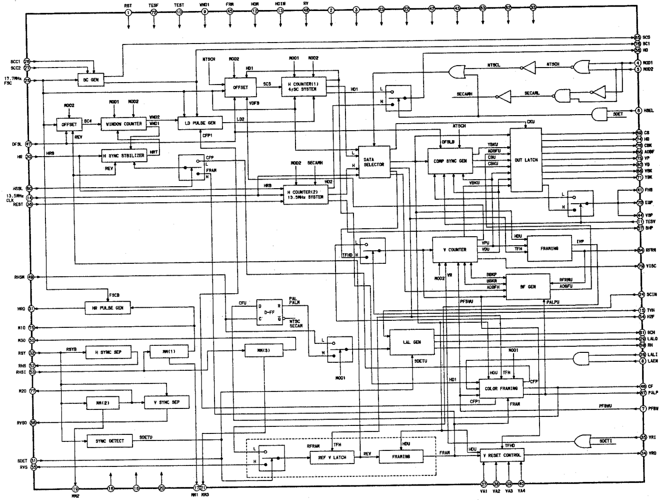
VCR0306


VCC2
+5V
9
18
19
20
10
VCC1
+8V
13
12
11
16
5
GND
14
R2
3K
IC1
1/4
R6
18K
ZD1
R29
6800
R19
33K
D1
R20
150Ω
IC3
1/4
R3
2K
R7
12K
IC1
2/4
R8
18K
R17
5600
R21
330Ω
R22
20Ω
IC1
4/4
IC3
2/4
R4
2K
R9
12K
IC1
3/4
R10
18K
IC2
R23
300Ω
R24
300Ω
R5
3K
R18
100Ω
IC3
3/4
R11
39K
Q2
R25
1K
C1
104P
R15
10K
R16
10K
IC3
4/4
R28
8200Ω
17
8
6
7
15
1
2
3
4
−5V
−VCC2

VCR0307

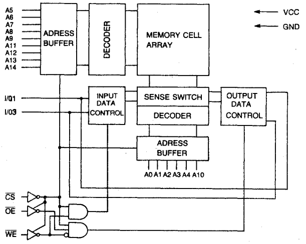

GND
11
TP
4
NC
9
NC
12
NC
19
VCC2
+5V
17
VCC1
+8V
2
R1
2700
R3
1500
R4
2700
R6
1300
Q3
R15
100
R25
750
Q9
1
Q1
Q2
R5
6800
S
D
G
R16
100
R26
5600
3
R13
39K
Q7
R17
100
R27
6800
S
G
G
D
Q5
D
Q6
S
R18
100
R28
62K
R29
2K
R2
7500
R9
10K
R12
5600
R14
39K
Q8
R19
100
C4
104P
C7
104P
R30
10K
C5
104P
C6
104P
R20
10K
R21
10K
R22
10K
R23
10K
R24
10K
R31
12K
7
18
6
5
8
10
13
14
15
16
20
+2V
−5V
−VCC2

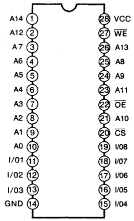
μPD65022F210


RST
TESF
TEST
WND1
FRM
HDM
HDIN
RV
SCC1
SCC2
17.7MHz FSC
SC GEN
OFFSET
SC5
H COUNTER(1) 4fSC SYSTEM
HD1
VDFB
NTSCH
MOD1
MOD2
WINDOW COUNTER
WND2
SC4
REV
LD PULSE GEN
LD2
CFP1
DFSL
HR
HRB
H SYNC STABILIZER
HRT
CFP
FRAM
HSSL
13.5MHz CLK
REST
H COUNTER(2) 13.5MHz SYSTEM
HD2
SECAMH
DATA SELECTOR
COMP SYNC GEN
OUT LATCH
CKU
DFSLB
YBKU
ADBFU
CSU
CBKU
NTSCL
SECAML
SDET
SCO
SC1
HO
HSEL
CS
HD
CBK
ADBF
VP
VD
VBK
YBK
FHS
EQP
VSP
TESV
SHP
V COUNTER
VPU
VDU
TFHD
HDU
TFH
FRAMING
IVP
RFRM
VISC
RHSM
FSCB
HR PULSE GEN
HRO
M10
M30
RSY
RSYB
H SYNC SEP
MM(1)
MM(3)
RHS
RHSI
M20
MM(2)
V SYNC SEP
RVSO
SYNC DETECT
SDETU
SDET
RVS
D-FF
CFU
PAL PALM
NTSC SECAM
LAL GEN
BF GEN
BBKP
BBKR
ADBFH
RFRMU
ADBFU
PALPU
PFBWU
SCIN
TVH
H2F
SCH
LALO
RH
LALI
LAEN
COLOR FRAMING
CF
PALP
PFBW
REF V LATCH
RFRAM
FRAMING
FRAM
V RESET CONTROL
TFHD
SDET1
VRI
VRO
MM2
MM1
MM3
VA1
VA2
VA3
VA4

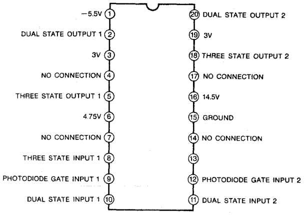
PIN NO.	SYMBOL	I/O	DESCRIPTIONS
1	RST	I	TEST TERMINAL
2	VDD	—	VDD 5V
3	GND	—	GND
4	MOD1	I	TV MODE SELECT(SHOWN IN TABLE1)
5	MOD2	I	TV MODE SELECT(SHOWN IN TABLE1)
6	HSEL	I	MAIN CLOCK SELECT(SHOWN IN TABLE2)
7	PFBW	I	PAL-CF RESET NTSC-V BLANKING WITH SELECT
8	LAEN	I	LINE ALTERNATE PULSE ENABLE INPUT
			HI-INABLE LO-UNINABLE
9	WND1	I	TEST TERMINAL
10	TEST	I	TEST TERMINAL
11	TESV	I	TEST TERMINAL
12	HDM1	I	TEST TERMINAL
13	HDIN	I	TEST TERMINAL
14	CLK	I	13.5MHz CLOCK INPUT
15	TVH	I	V COUNTER CLOCK SELECT
			L-H2F EXT H-2fHD INT(or OPEN)
16	GND	—	GND(FOR M.M.)
17	MM1	I/O	CR CONNECTION FOR MM1
18	GND	—	GND(FOR M.M.)
19	MM2	I/O	CR CONNECTION FOR MM2
20	GND	—	GND(FOR M.M.)
21	MM3	I/O	CR CONNECTION FOR MM3
22	GND	—	GND
23	VDD	—	VDD 5V
24	SCIN	I	SUB CARRIER INPUT
25	FSC	I	4fsc CLOCK INPUT
26	SCC1	I	SC1 PHASE CONTROL INPUT
27	SCC2	I	SC1 PHASE CONTROL INPUT
28	LALI	I	LINE ALTERNATE PULSE INPUT
			NTSC-CF RESET PAL-PAL PULSE RESET
29	LALO	I	LINE ALTERNATE PULSE INPUT
30	HR	I	H COUNTER RESET(4fsc)INPUT
31	HRO	0	H COUNTER RESET(4fsc)OUTPUT
32	RSY	I	REFERENCE SYNC INPUT
33	GND	—	GND
34	VRO	0	V COUNTER RESET OUTPUT
35	VRI	I	V COUNTER RESET INPUT
36	REST	I	H COUNTER RESET(13.5MHz)
37	VA1	I	V RESET OUTPUT PHASE SELECT
38	VA2	I	V RESET OUTPUT PHASE SELECT
39	VA3	I	V RESET OUTPUT PHASE SELECT
40	VA4	I	V RESET OUTPUT PHASE SELECT
41	FHS	I/O	H SYNC OUT(fH)
42	VDD	—	VDD 5V
43	GND	—	GND
44	VSP	I/O	V SERRATION PULSE(2fH)
45	FRM	I	TEST TERMINAL
46	CF	0	CF SIGNAL OUTPUT
47	DFSL	I	NTSC-YBK SELECT PAL-OFFSET
48	RV	I	TEST TERMINAL
49	RHSM	I	LUTCH PULSE INPUT(FOR CF DET)
50	M30	0	MM3 OUT
51	SDET	0	REF SYNC (RSY)DETECT
52	RHS	0	REF H SIGNAL
53	RHSI	I	REF H SYNC INPUT
54	H2F	I	2fHD INPUT(TVH:LO ONLY)
55	RVS	I	V SYNC INPUT
56	RVSO	0	V SYNC SEPARATOR OUTPUT
57	SHP	0	SAMPLE HOLD PULSE
58	HO	0	SIGNAL FOR MAKING TRAPEZOID WAVE(fH)
59	RH	0	DELAYED "RHSM" PULSE(FOR PAL CF)
60	HSSL	I	H SYNC STABILITY CIRCUIT SENSITIVITY SELECT
			L(or OPEN)-STABILITY:MAX.RESPONCE:LOW
			H-STABILITY:MIN.RESPONCE:HIGH
61	SCH	0	CF DET MALFUNCTION PREVENTION PULSE
			HI-NOR.LO-MAL
62	GND	—	GND
63	VDD	—	VDD 5V
64	RFRM	0	FRAMING SIGNAL HI-ODD.LO-EVEN
65	SCO	0	SUB CARRIER OUT
66	ADRM	0	ADVANCED BURST FLAG(fH)
67	PALP	0	PAL PALSE OUTPUT(fH/2)
68	VBK	0	V BLANKING SIGNAL
69	CS	0	COMPOSITE SYNCHRONIZING SIGNAL
70	EQP	I/O	EQUALIZING PULSE(2fH)
71	YBK	0	B/W CONTROL PULSE
72	TESF	I	TEST TERMINAL
73	VP	0	VP PULSE
74	HD	0	HD PULSE(2fH)
75	M10	0	MM1 OUT
76	CBK	0	COMPOSITE SYNCHRONIZING SIGNAL
77	M20	0	MM2 OUT
78	SC1	0	SUB CARRIER OUT
79	VISC	0	VISC GATE PULSE
80	VD	0	VD PULSE

μPD43256AGU

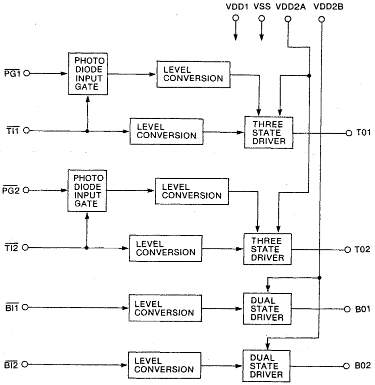

A5
A6
A7
A8
A9
A11
A12
A13
A14
ADRESS BUFFER
DECODER
MEMORY CELL ARRAY
VCC
GND
I/01
I/03
INPUT DATA CONTROL
SENSE SWITCH
DECODER
OUTPUT DATA CONTROL
ADRESS BUFFER
A0 A1 A2 A3 A4 A10
CS
OE
WE


A14 1
A12 2
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
I/01 11
I/02 12
I/03 13
GND 14
28 VCC
27 WE
26 A13
25 A8
24 A9
23 A11
22 OE
21 A10
20 CS
19 I/08
18 I/07
17 I/06
16 I/05
15 I/04

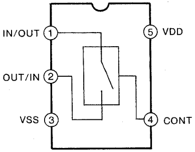
μPD6147G


−5.5V 1
DUAL STATE OUTPUT 1 2
3V 3
NO CONNECTION 4
THREE STATE OUTPUT 1 5
4.75V 6
NO CONNECTION 7
THREE STATE INPUT 1 8
PHOTODIODE GATE INPUT 1 9
DUAL STATE INPUT 1 10
20 DUAL STATE OUTPUT 2
19 3V
18 THREE STATE OUTPUT 2
17 NO CONNECTION
16 14.5V
15 GROUND
14 NO CONNECTION
13
12 PHOTODIODE GATE INPUT 2
11 DUAL STATE INPUT 2

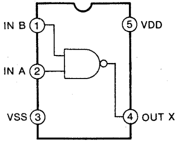
(CCD DRIVER)


VDD1
VSS
VDD2A
VDD2B
PG1
PHOTO DIODE INPUT GATE
LEVEL CONVERSION
TI1
LEVEL CONVERSION
THREE STATE DRIVER
T01
PG2
PHOTO DIODE INPUT GATE
LEVEL CONVERSION
TI2
LEVEL CONVERSION
THREE STATE DRIVER
T02
BI1
LEVEL CONVERSION
DUAL STATE DRIVER
B01
BI2
LEVEL CONVERSION
DUAL STATE DRIVER
B02

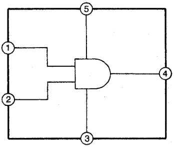
TC14S66F
(BILATERAL SWITCH)


IN/OUT 1
OUT/IN 2
VSS 3
5 VDD
4 CONT

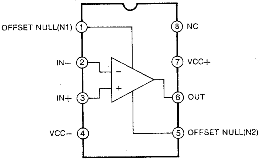
TC7S00F
(NAND GATE)


IN B 1
IN A 2
VSS 3
5 VDD
4 OUT X

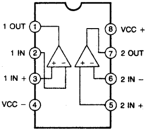
TC7S08F
(1 GATE IC)



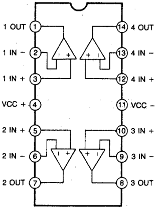
TL061CPS-L
(TOP VIEW)


OFFSET NULL(N1) 1
IN− 2
IN+ 3
VCC− 4
8 NC
7 VCC+
6 OUT
5 OFFSET NULL(N2)
−
+

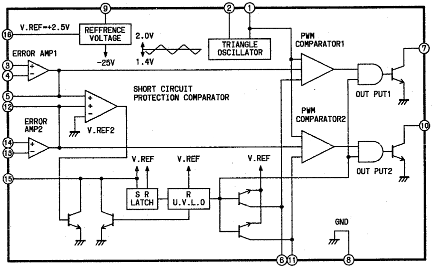
TL062CPS


1 OUT 1
1 IN 2
1 IN + 3
VCC − 4
8 VCC +
7 2 OUT
6 2 IN −
5 2 IN +

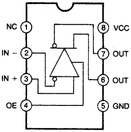
TL064CNS


1 OUT 1
1 IN − 2
1 IN + 3
VCC + 4
2 IN + 5
2 IN − 6
2 OUT 7
14 4 OUT
13 4 IN −
12 4 IN +
11 VCC −
10 3 IN +
9 3 IN −
8 3 OUT

TL1451CNS
(DUAL SWITCHING REGULATOR CONTROLLER)

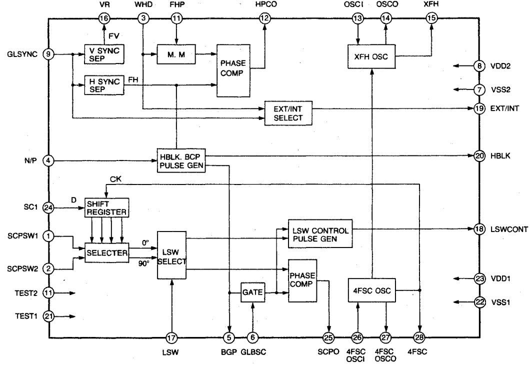

9
2
1
16
V.REF=+2.5V
REFFRENCE VOLTAGE
2.0V
1.4V
-25V
TRIANGLE OSCILLATOR
PWM COMPARATOR1
ERROR AMP1
3
4
5
12
SHORT CIRCUIT PROTECTION COMPARATOR
V.REF2
ERROR AMP2
14
13
15
OUT PUT1
PWM COMPARATOR2
OUT PUT2
7
10
V.REF
V.REF
V.REF
S R LATCH
R U.V.L.O
GND
6
11
8

TL712CPS
(COMPARATOR)


NC 1
IN − 2
IN + 3
OE 4
8 VCC
7 OUT −
6 OUT +
5 GND

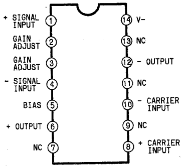
MN6761S

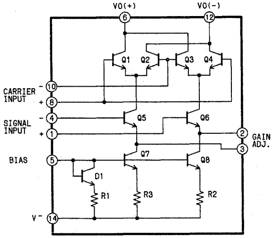
(EXTERNAL SYNC CONTROL)


VR
WHD
FHP
HPCO
XFH OSCI
XFH OSCO
XFH
16
3
11
12
13
14
15
FV
GLSYNC
9
V SYNC SEP
M. M
PHASE COMP
XFH OSC
8
VDD2
7
VSS2
H SYNC SEP
FH
EXT/INT SELECT
19
EXT/INT
N/P
4
HBLK. BCP PULSE GEN
20
HBLK
CK
D
SC1
24
SHIFT REGISTER
SCPSW1
1
SELECTER
0°
90°
LSW SELECT
LSW CONTROL PULSE GEN
18
LSWCONT
SCPSW2
2
PHASE COMP
GATE
4FSC OSC
23
VDD1
22
VSS1
TEST2
11
TEST1
21
17
5
6
25
26
27
28
LSW
BGP
GLBSC
SCPO
4FSC OSCI
4FSC OSCO
4FSC

NJM1496M

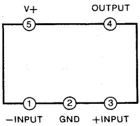
(BALANCED MODULATOR/DEMODULATOR)


+ SIGNAL INPUT
1
GAIN ADJUST
2
GAIN ADJUST
3
- SIGNAL INPUT
4
BIAS
5
+ OUTPUT
6
NC
7
14
V-
13
NC
12
- OUTPUT
11
NC
10
- CARRIER INPUT
9
NC
8
+ CARRIER INPUT


VO(+)
VO(-)
6
12
Q1
Q2
Q3
Q4
CARRIER INPUT
-
10
+
8
SIGNAL INPUT
-
4
+
1
Q5
Q6
2
3
GAIN ADJ.
BIAS
5
Q7
Q8
D1
R1
R3
R2
V⁻
14

NJM2406F

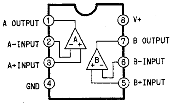
(SINGLE COMPORATOR)


V+
OUTPUT
5
4
1
2
3
−INPUT
GND
+INPUT

NJM2904M

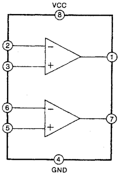
(DUAL SIGNAL SUPPLY OPERATIONAL AMPLIFIER)

(TOP VIEW)


A OUTPUT
1
A-INPUT
2
A+INPUT
3
GND
4
8
V+
7
B OUTPUT
6
B-INPUT
5
B+INPUT
A
-
+
B
+
-

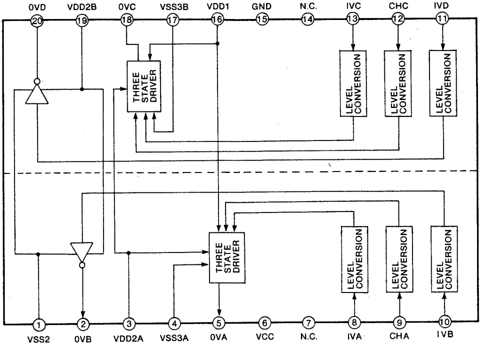
RC082BM

(DIFFERENTIAL AMPLIFIER)


VCC
8
2
3
1
6
5
7
4
GND
−
+
−
+

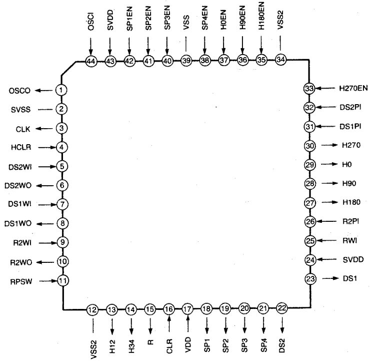
MN3107CS

(VERTICAL DRIVER FOR CCD IMAGE SENSOR)


OVD 20
VDD2B 19
OVC 18
VSS3B 17
VDD1 16
GND 15
N.C. 14
IVC 13
CHC 12
IVD 11
THREE STATE DRIVER
LEVEL CONVERSION
LEVEL CONVERSION
LEVEL CONVERSION
THREE STATE DRIVER
LEVEL CONVERSION
LEVEL CONVERSION
LEVEL CONVERSION
1 VSS2
2 OVB
3 VDD2A
4 VSS3A
5 OVA
6 VCC
7 N.C.
8 IVA
9 CHA
10 IVB

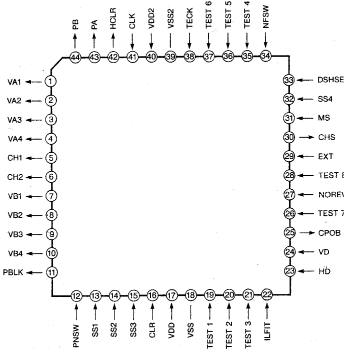
MN53003XCU

(300 GATES C-MOS GATE ARRAY)

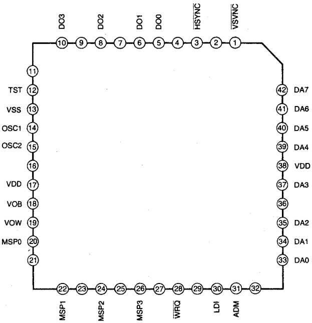

OSCI 44
SVDD 43
SP1EN 42
SP2EN 41
SP3EN 40
VSS 39
SP4EN 38
H0EN 37
H90EN 36
H180EN 35
VSS2 34
OSCO 1
SVSS 2
CLK 3
HCLR 4
DS2WI 5
DS2WO 6
DS1WI 7
DS1WO 8
R2WI 9
R2WO 10
RPSW 11
33 H270EN
32 DS2PI
31 DS1PI
30 H270
29 H0
28 H90
27 H180
26 R2PI
25 RWI
24 SVDD
23 DS1
12 VSS2
13 H12
14 H34
15 R
16 CLR
17 VDD
18 SP1
19 SP2
20 SP3
21 SP4
22 DS2

MN53020XXB

(CCD DRIV PULSE GENRATOR)

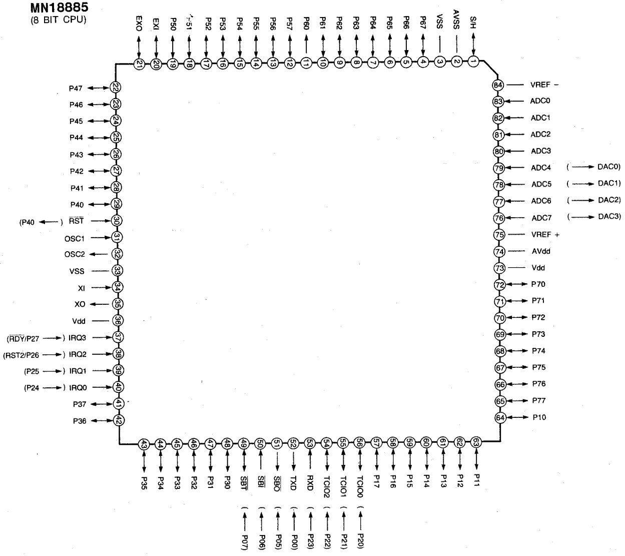

PB 44
PA 43
HCLR 42
CLK 41
VDD2 40
VSS2 39
TECK 38
TEST 6 37
TEST 5 36
TEST 4 35
NFSW 34
VA1 1
VA2 2
VA3 3
VA4 4
CH1 5
CH2 6
VB1 7
VB2 8
VB3 9
VB4 10
PBLK 11
33 DSHSE
32 SS4
31 MS
30 CHS
29 EXT
28 TEST
27 NORE
26 TEST
25 CPOB
24 VD
23 HD
12 PNSW
13 SS1
14 SS2
15 SS3
16 CLR
17 VDD
18 VSS
19 TEST 1
20 TEST 2
21 TEST 3
22 ILFIT

MN1287BF


DO3
DO2
DO1
DO0
HSYNC
VSVNC
TST
VSS
OSC1
OSC2
VDD
VOB
VOW
MSP0
DA7
DA6
DA5
DA4
VDD
DA3
DA2
DA1
DA0
MSP1
MSP2
MSP3
WRQ
LDI
ADM
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

MN18885

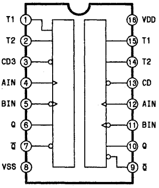
(8 BIT CPU)


EXO
EXI
P50
P51
P52
P53
P54
P55
P56
P57
P60
P61
P62
P63
P64
P65
P66
P67
VSS
AVSS
S/H
P47
P46
P45
P44
P43
P42
P41
P40
(P40 ←) RST
OSC1
OSC2
VSS
XI
XO
Vdd
(RDY/P27 →) IRQ3
(RST2/P26 →) IRQ2
(P25 →) IRQ1
(P24 →) IRQ0
P37
P36
VREF −
ADC0
ADC1
ADC2
ADC3
ADC4 (→ DAC0)
ADC5 (→ DAC1)
ADC6 (→ DAC2)
ADC7 (→ DAC3)
VREF +
AVdd
Vdd
P70
P71
P72
P73
P74
P75
P76
P77
P10
P35
P34
P33
P32
P31
P30
SBT (← P07)
SBI (← P06)
SBO (← P05)
TXD (← P00)
RXD (← P23)
TCIO2 (← P22)
TCIO1 (← P21)
TCIO0 (← P20)
P17
P16
P15
P14
P13
P12
P11

MC74HC4538F

(DUAL PRECISION MONOSTABLE MULTIVIBRATOR)

(TOP VIEW)

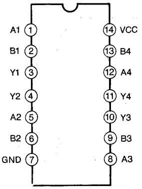

T1 1
T2 2
CD 3
AIN 4
BIN 5
Q 6
$\overline{Q}$ 7
VSS 8
16 VDD
15 T1
14 T2
13 CD
12 AIN
11 BIN
10 Q
9 $\overline{Q}$

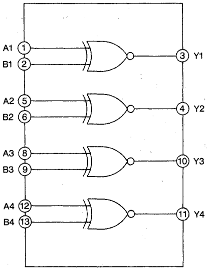
TRUTH TABLE

INPUT			OUTPUT	
A	$\overline{B}$	$\overline{CD}$	Q	$\overline{Q}$
↗	H	H	⊓	⊔
↗	L	H	Q	$\overline{Q}$
H	↘	H	Q	$\overline{Q}$
L	↘	H	⊓	⊔
×	×	L	L	H

MC74HC7266F

(QUAD 2-INPUT EXCLUSIDE NOR GATE)

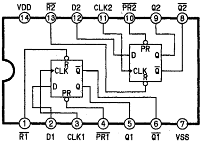

A1 1
B1 2
Y1 3
Y2 4
A2 5
B2 6
GND 7
14 VCC
13 B4
12 A4
11 Y4
10 Y3
9 B3
8 A3


A1 1
B1 2
3 Y1
A2 5
B2 6
4 Y2
A3 8
B3 9
10 Y3
A4 12
B4 13
11 Y4

MC74HC74AF

(DUAL D-TYPE FLIP-FLOP)

(TOP VIEW)


VDD 14
$\overline{R2}$ 13
D2 12
CLK2 11
$\overline{PR2}$ 10
Q2 9
$\overline{Q2}$ 8
PR
D
Q
CLK
R
$\overline{Q}$
R
CLK
$\overline{Q}$
D
Q
PR
1 $\overline{R1}$
2 D1
3 CLK1
4 $\overline{PR1}$
5 Q1
6 $\overline{Q1}$
7 VSS

CLK:CLOCK

$\overline{PR}$:$\overline{PRESET}$

$\overline{R}$:$\overline{RESET}$

D:DATA

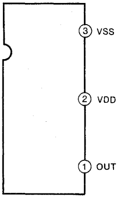
TRUTH TABLE (74HC74)

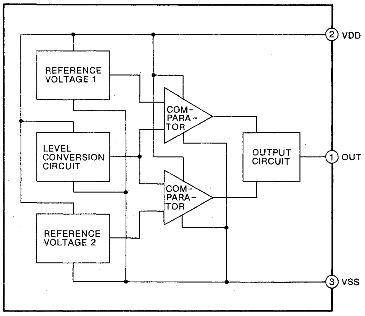
INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	$\overline{Q}$
L	H	×	×	H	L
H	L	×	×	L	H
L	L	×	×	H*	H*
H	H	↑	H	H	L
H	H	↑	L	L	H
H	H	L	×	Q0	$\overline{Q}$0

*:UNSTABLE

MN1280P

(RESET SIGNAL GENERATOR)

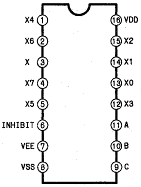

3 VSS
2 VDD
1 OUT


2 VDD
REFERENCE VOLTAGE 1
COM-PARA-TOR
LEVEL CONVERSION CIRCUIT
OUTPUT CIRCUIT
1 OUT
COM-PARA-TOR
REFERENCE VOLTAGE 2
3 VSS

MC74HC4051F

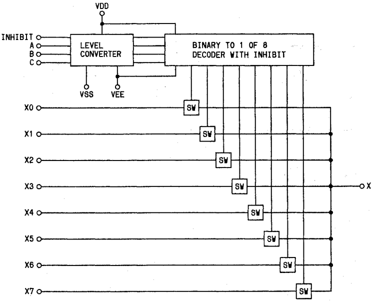
(SINGLE 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER)

(TOP VIEW)


X4 1
X6 2
X 3
X7 4
X5 5
INHIBIT 6
VEE 7
VSS 8
16 VDD
15 X2
14 X1
13 X0
12 X3
11 A
10 B
9 C

TRUTH TABLE

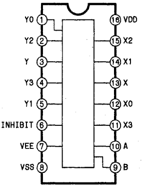
INPUT STATES				"ON"CHANNEL(S)
INHIBIT	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	×	×	×	NONE


VDD
INHIBIT
A
B
C
LEVEL CONVERTER
BINARY TO 1 OF 8 DECODER WITH INHIBIT
VSS
VEE
X0
X1
X2
X3
X4
X5
X6
X7
SW
X

MC74HC4052F

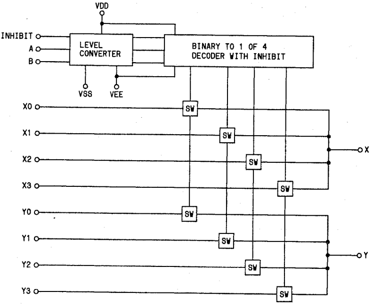
(DIFFERENTIAL 4-CHANNEL MULTIPLEXER/DEMULTIPLEXER)

(TOP VIEW)


Y0 1
Y2 2
Y 3
Y3 4
Y1 5
INHIBIT 6
VEE 7
VSS 8
16 VDD
15 X2
14 X1
13 X
12 X0
11 X3
10 A
9 B

TRUTH TABLE

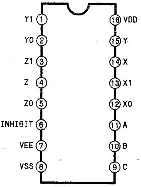
INPUT STATES			"ON"CHANNEL(S)
INHIBIT	B	A	
0	0	0	X0,Y0
0	0	1	X1,Y1
0	1	0	X2,Y2
0	1	1	X3,Y3
1	×	×	NONE


VDD
INHIBIT
A
B
LEVEL CONVERTER
BINARY TO 1 OF 4 DECODER WITH INHIBIT
VSS
VEE
X0
X1
X2
X3
Y0
Y1
Y2
Y3
SW
X
Y

MC74HC4053F

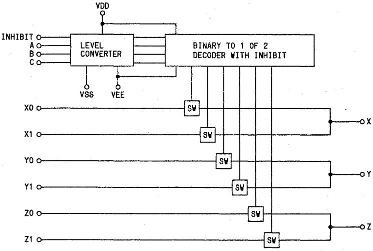
(TRIPLE 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER)

(TOP VIEW)


Y1 1
Y0 2
Z1 3
Z 4
Z0 5
INHIBIT 6
VEE 7
VSS 8
16 VDD
15 Y
14 X
13 X1
12 X0
11 A
10 B
9 C

TRUTH TABLE

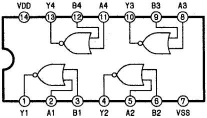
INPUT STATES				"ON"CHANNEL(S)
INHIBIT	C	B	A	
0	0	0	0	X0,Y0,Z0
0	0	0	1	X1,Y1,Z1
1	×	×	×	NONE


VDD
INHIBIT
A
B
C
LEVEL CONVERTER
BINARY TO 1 OF 2 DECODER WITH INHIBIT
VSS
VEE
X0
X1
Y0
Y1
Z0
Z1
SW
X
Y
Z

MC74HC02AF

(QUAD 2-INPUT NOR GATE)

(TOP VIEW)


VDD
Y4
B4
A4
Y3
B3
A3
14
13
12
11
10
9
8
1
2
3
4
5
6
7
Y1
A1
B1
Y2
A2
B2
VSS

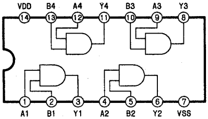
TRUTH TABLE

INPUTS		OUTPUTS
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	L

MC74HC08AF

(QUAD 2-INPUT AND GATE)

(TOP VIEW)


VDD
B4
A4
Y4
B3
A3
Y3
14
13
12
11
10
9
8
1
2
3
4
5
6
7
A1
B1
Y1
A2
B2
Y2
VSS

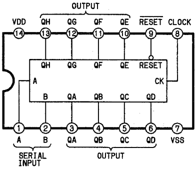
TRUTH TABLE

INPUTS		OUTPUTS
A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

MC74HC164F

(8-BIT SERIAL-IN/PARALLEL-OUT SHIFT REGISTER)

(TOP VIEW)

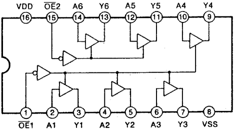

OUTPUT
VDD
QH
QG
QF
QE
RESET
CLOCK
14
13
12
11
10
9
8
QH
QG
QF
QE
RESET
A
CK
B
QA
QB
QC
QD
1
2
3
4
5
6
7
A
B
QA
QB
QC
QD
VSS
SERIAL INPUT
OUTPUT

TRUTH TABLE (74HC164)

INPUT				OUTPUT		
RESET	CLOCK	A	B	QA	QB	QH
L	×	×	×	L	L	L
H	↓	×	×	NO CHANGE		
H	↑	L	×	L	QA	QG
H	↑	×	L	L	QA	QG
H	↑	H	H	H	QA	QG

H:HIGH L:LOW X:H or L

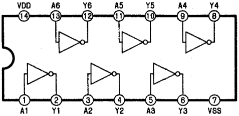
MC74HC367F


VDD
OE2
A6
Y6
A5
Y5
A4
Y4
16
15
14
13
12
11
10
9
1
2
3
4
5
6
7
8
OE1
A1
Y1
A2
Y2
A3
Y3
VSS

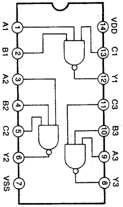
MC74HC04AF

(HEX.INVERTER)

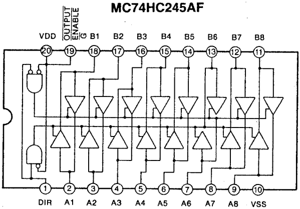
(TOP VIEW)


VDD
A6
Y6
A5
Y5
A4
Y4
14
13
12
11
10
9
8
1
2
3
4
5
6
7
A1
Y1
A2
Y2
A3
Y3
VSS

MC74HC10F


A1
B1
A2
B2
C2
Y2
VSS
1
2
3
4
5
6
7
VDD
C1
Y1
C3
B3
A3
Y3
14
13
12
11
10
9
8

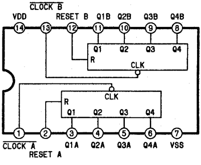
MC74HC245AF


OUTPUT ENABLE G
VDD
B1
B2
B3
B4
B5
B6
B7
B8
20
19
18
17
16
15
14
13
12
11
1
2
3
4
5
6
7
8
9
10
DIR
A1
A2
A3
A4
A5
A6
A7
A8
VSS

MC74HC393F

(DUAL 4-BIT BINARY COUNTER)

(TOP VIEW)

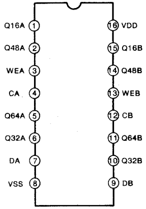

CLOCK B
VDD
RESET B
Q1B
Q2B
Q3B
Q4B
14
13
12
11
10
9
8
Q1
Q2
Q3
Q4
R
CLK
R
CLK
Q1
Q2
Q3
Q4
1
2
3
4
5
6
7
CLOCK A
RESET A
Q1A
Q2A
Q3A
Q4A
VSS

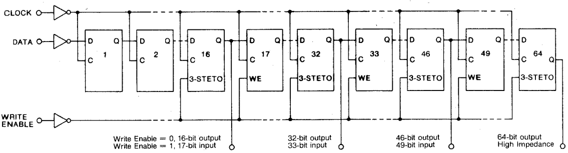
TRUTH TABLE (74HC393)

INPUTS		FUNCTION
CLOCK	CLEAR	
↓	L	INCREMENT
×	H	CLEAR

MC14517BCP

(DUAL 64 BIT STATIC SHIFT REGISTER)

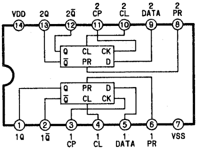

Q16A 1
Q48A 2
WEA 3
CA 4
Q64A 5
Q32A 6
DA 7
VSS 8
16 VDD
15 Q16B
14 Q48B
13 WEB
12 CB
11 Q64B
10 Q32B
9 DB


CLOCK
DATA
WRITE ENABLE
D Q C 1
D Q C 2
D Q C 16 3-STETO
D Q C 17 WE
D Q C 32 3-STETO
D Q C 33 WE
D Q C 46 3-STETO
D Q C 49 WE
D Q C 64 3-STETO
Write Enable = 0, 16-bit output
Write Enable = 1, 17-bit input
32-bit output
33-bit input
46-bit output
49-bit input
64-bit output
High Impedance

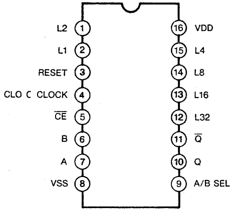
CLOCK	WRITE ENABLE	DATA	16-BIT TAP	32-BIT TAP	48-BIT TAP	64-BIT TAP
0	0	×	Content of 16-Bit Displayed	Content of 32-Bit Displayed	Content of 48-Bit Displayed	Content of 64-Bit Displayed
0	1	×	High impedance	High impedance	High impedance	High impedance
1	0	×	Content of 16-Bit Displayed	Content of 32-Bit Displayed	Content of 48-Bit Displayed	Content of 64-Bit Displayed
1	1	×	High impedance	High impedance	High impedance	High impedance
↑	0	Data entered into 1st Bit	Content of 16-Bit Displayed	Content of 32-Bit Displayed	Content of 48-Bit Displayed	Content of 64-Bit Displayed
↑	1	Data entered into 1st Bit	Data at tap entered into 17-Bit	Data at tap entered into 33-Bit	Data at tap entered into 49-Bit	High impedance
↓	0	×	Content of 16-Bit Displayed	Content of 32-Bit Displayed	Content of 48-Bit Displayed	Content of 64-Bit Displayed
↓	1	×	High impedance	High impedance	High impedance	High impedance

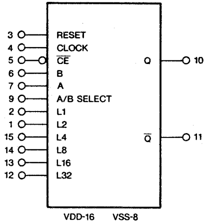
MC14013BF

(DUAL D-TYPE FLIP-FLOP)

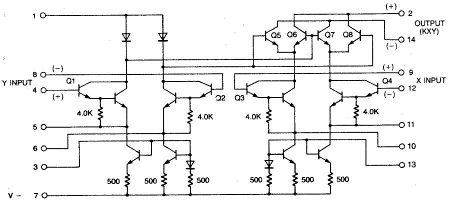

VDD 14
2Q 13
2Q̄ 12
2 CP 11
2 CL 10
2 DATA 9
2 PR 8
Q CL CK
Q̄ PR D
Q PR D
Q̄ CL CK
1 1Q
2 1Q̄
3 1 CP
4 1 CL
5 1 DATA
6 1 PR
7 VSS

MC14557BF (1 TO 64 BIT VARIABLE LENGTH SHIFT REGISTER)


L2 1
L1 2
RESET 3
CLO C CLOCK 4
CE̅ 5
B 6
A 7
VSS 8
16 VDD
15 L4
14 L8
13 L16
12 L32
11 Q̄
10 Q
9 A/B SEL


3 RESET
4 CLOCK
5 CE̅
6 B
7 A
9 A/B SELECT
2 L1
1 L2
15 L4
14 L8
13 L16
12 L32
Q 10
Q̄ 11
VDD-16 VSS-8

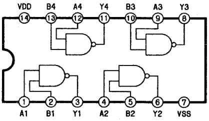
MC1595L


1
(+) 2
OUTPUT (KXY)
(−) 14
Q5 Q6 Q7 Q8
8 (−)
Y INPUT
4 (+)
Q1
Q2
Q3
Q4
(+) 9
X INPUT
12 (−)
4.0K
4.0K
4.0K
4.0K
5
11
6
10
3
13
500
500
500
500
500
500
V − 7

MC74HC00AF

(QUAD 2-INPUT NAND GATE)

(TOP VIEW)

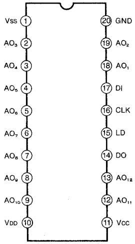

VDD 14
B4 13
A4 12
Y4 11
B3 10
A3 9
Y3 8
1 A1
2 B1
3 Y1
4 A2
5 B2
6 Y2
7 VSS

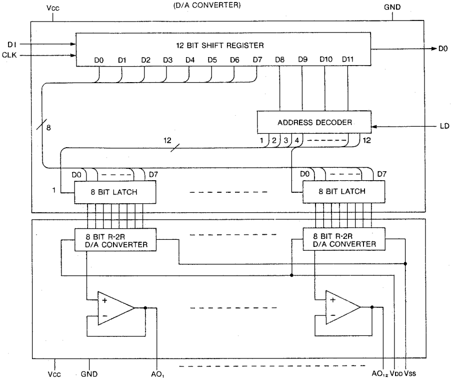
TRUTH TABLE (74HC)

INPUTS		OUTPUTS
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

MB88346APF

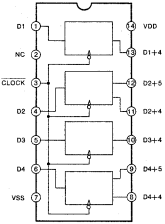
(TOP VIEW)

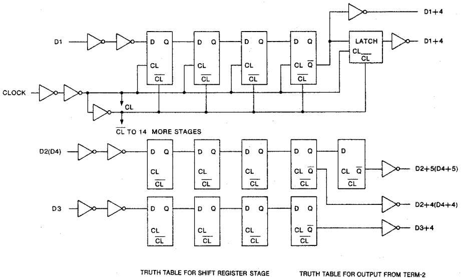

Vss 1
AO3 2
AO4 3
AO5 4
AO6 5
AO7 6
AO8 7
AO9 8
AO10 9
VDD 10
Vcc 11
AO11 12
AO13 13
DO 14
LD 15
CLK 16
DI 17
AO1 18
AO2 19
GND 20


(D/A CONVERTER)
Vcc
GND
DI
CLK
12 BIT SHIFT REGISTER
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11
DO
ADDRESS DECODER
LD
8
12
1 2 3 4 12
D0 D7
8 BIT LATCH
1
8 BIT R-2R D/A CONVERTER
+
−
Vcc
GND
AO1
AO12 VDD Vss

MC14006BF

(18 BIT STATIC SHIFT REGISTER)


D1 1
NC 2
CLOCK 3
D2 4
D3 5
D4 6
VSS 7
D4+4 8
D4+5 9
D3+4 10
D2+4 11
D2+5 12
D1+4 13
VDD 14


D1
CLOCK
D Q
CL
CL
CL Q
LATCH
D1+4
D1+4
CL
CL TO 14 MORE STAGES
D2(D4)
D2+5(D4+5)
D2+4(D4+4)
D3
D3+4

TRUTH TABLE FOR SHIFT REGISTER STAGE

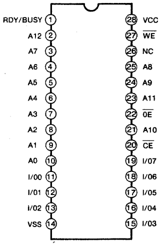
D	CL▲	D + 1
0	╲	0
1	╲	1
X	╱	NC

TRUTH TABLE FOR OUTPUT FROM TERM-2

$D1^{+4}$	CL▲	$D1^{+4'}$
0	╱	0
1	╱	1
X	╲	NC

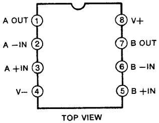
1 = HIGH
0 = LOW
NC = NO CHANGE
X = DON'T CARE
▲= LEVEL CHANGE

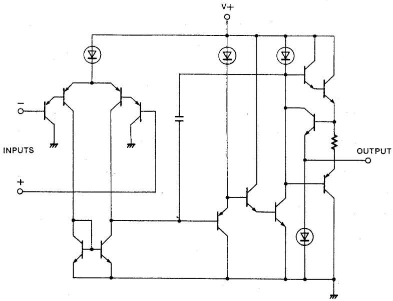
HN58C65RFP25 (ROM)


RDY/BUSY 1
A12 2
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
I/00 11
I/01 12
I/02 13
VSS 14
28 VCC
27 WE
26 NC
25 A8
24 A9
23 A11
22 OE
21 A10
20 CE
19 I/07
18 I/06
17 I/05
16 I/04
15 I/03

LM2904M

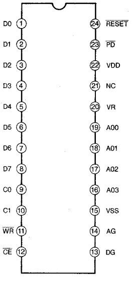
(DUAL OPERATIONAL AMPLIFIER)


A OUT 1
A −IN 2
A +IN 3
V− 4
8 V+
7 B OUT
6 B −IN
5 B +IN
TOP VIEW

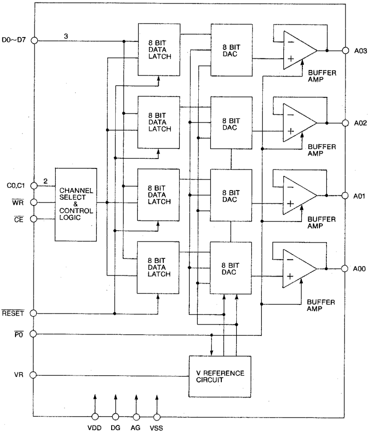

V+
−
INPUTS
+
OUTPUT

MB86023PF

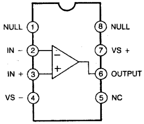
(TOP VIEW)


D0 1
D1 2
D2 3
D3 4
D4 5
D5 6
D6 7
D7 8
C0 9
C1 10
WR 11
CE 12
24 RESET
23 PD
22 VDD
21 NC
20 VR
19 A00
18 A01
17 A02
16 A03
15 VSS
14 AG
13 DG

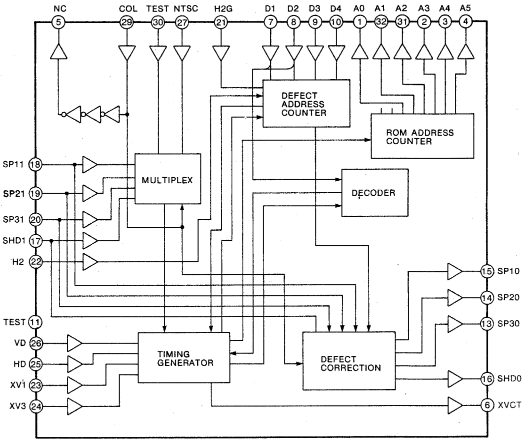
(8BIT D/A CONVERTER)


D0~D7
3
8 BIT DATA LATCH
8 BIT DAC
BUFFER AMP
A03
A02
A01
A00
C0,C1
2
WR
CE
CHANNEL SELECT & CONTROL LOGIC
RESET
P0
VR
V REFERENCE CIRCUIT
VDD
DG
AG
VSS

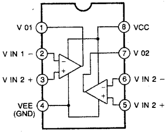
AD847JR


NULL 1
IN − 2
IN + 3
VS − 4
8 NULL
7 VS +
6 OUTPUT
5 NC
−
+

CXD1251Q (CCD DEFECT COMPENSATION TIMING PULSE GENERATOR)


NC 5
COL 29
TEST 30
NTSC 27
H2G 21
D1 7
D2 8
D3 9
D4 10
A0 1
A1 32
A2 31
A3 2
A4 3
A5 4
DEFECT ADDRESS COUNTER
ROM ADDRESS COUNTER
MULTIPLEX
DECODER
SP11 18
SP21 19
SP31 20
SHD1 17
H2 22
TEST 11
VD 26
HD 25
XV1 23
XV3 24
TIMING GENERATOR
DEFECT CORRECTION
15 SP10
14 SP20
13 SP30
16 SHD0
6 XVCT

AN1358S

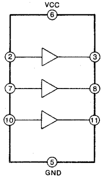

V 01 1
V IN 1 − 2
V IN 2 + 3
VEE (GND) 4
8 VCC
7 V 02
6 V IN 2 −
5 V IN 2 +

CXD1251

1	A0	O	EXTERNAL ROM ADDRESS OUTPUT TERMINAL
2	A3	O	EXTERNAL ROM ADDRESS OUTPUT TERMINAL
3	A4	O	EXTERNAL ROM ADDRESS OUTPUT TERMINAL
4	A5	O	EXTERNAL ROM ADDRESS OUTPUT TERMINAL
5	NC	—	NC
6	XVCT	O	EXTERNAL ROM POWER CONTROL OUTPUT TERMINAL
7	DAT1	I	DATA INPUT TERMINAL FROM EXTERNAL ROM
8	DAT2	I	DATA INPUT TERMINAL FROM EXTERNAL ROM
9	DAT3	I	DATA INPUT TERMINAL FROM EXTERNAL ROM
10	DAT4	I	DATA INPUT TERMINAL FROM EXTERNAL ROM
11	TEST	I	TEST TERMINAL
12	VSS	—	VSS
13	SP30	O	CCD DEFECT CORRECTION S/H PULES OUTPUT TERMINAL
14	SP20	O	CCD DEFECT CORRECTION S/H PULES OUTPUT TERMINAL
15	SP10	O	CCD DEFECT CORRECTION S/H PULES OUTPUT TERMINAL
16	SHD O	O	CCD DEFECT CORRECTION S/H PULES OUTPUT TERMINAL
17	SHD I	I	S/H PULES INPUT TERMINAL
18	SP1 I	I	S/H PULES INPUT TERMINAL
19	SP2 I	I	S/H PULES INPUT TERMINAL
20	SP3 I	I	S/H PULES INPUT TERMINAL
21	H2G	I	CCD HORIZONTAL DRIVER CLOCK INPUT TERMINAL
22	H2	I	CCD HORIZONTAL DRIVER CLOCK INPUT TERMINAL
23	XV1	I	CCD HORIZONTAL DRIVER CLOCK INPUT TERMINAL
24	XV3	I	CCD HORIZONTAL DRIVER CLOCK INPUT TERMINAL
25	HD	I	HORIZONTAL DRIVER PULES INPUT TERMINAL FROM SYNC GENERATOR
26	VD	I	VERTICAL DRIVER PULES INPUT TERMINAL FROM SYNC GENERATOR
27	NTSC	I	NTSC/PAL MODE SW TERMINAL H:PAL L:NTSC
28	VDD	I	VDD
29	COL	I	COLOR/B/W MODE SW TERMINAL H:B/W L:COLOR
30	TEST	I	VDD
31	A2	O	EXTERNAL ROM ADDRESS OUTPUT TERMINAL
32	A1	O	EXTERNAL ROM ADDRESS OUTPUT TERMINAL

EHDHA6474

(BUFFER)


VCC
6
2
3
7
8
10
11
5
GND

IC INFORMATION
CONTENTS

PART NO.	PAGE
AD847JR	1
AN1358S	1
CXD1251Q	1
EHDHA6474	1
HN58C65RFP25	2
LM2904M	2
MB86023PF	2
MB88346APF	3
MC14006BF	3
MC14013BF	4
MC14052BF	6
MC14053BF	6
MC14517BCP	4
MC14557BF	4
MC1595L	4
MC74HC00AF	4
MC74HC02AF	5
MC74HC04AF	5
MC74HC08AF	5
MC74HC10F	5
MC74HC164F	5
MC74HC245AF	5
MC74HC367F	5
MC74HC393F	5
MC74HC4051F	6
MC74HC4052F	6
MC74HC4053F	6
MC74HC4538F	7
MC74HC7266F	7
MC74HC74AF	7
MN1280P	7
MN1287BF	8
MN18885	8
MN3107CS	9
MN53003XCU	9
MN53020XXB	9
MN6761S	10
N74F08D	5
NJM1496M	10
NJM2406F	10
NJM2904M	10
RC082BM	10
TC14S66F	11
TC7S00F	11
TC7S08F	11
TL061CPS-L	11
TL062CPS	11
TL064CNS	11
TL1451CNS	11
TL712CPS	11
μPD43256AGU	12
μPD6147G	12
μPD65022F210	13
VCR0306	14
VCR0307	14

P.C.BOARD

MOTHER P.C.BOARD SCM-18
PRE AMP P.C.BOARD SCM-19
PRE PROCESS P.C.BOARD SCM-20
DIGITAL PROCESS P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-21
ENCODER P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-23
PULSE P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-24
PULSE SUB(FOR PAL MODEL) SCM-24
CCD DRIVE P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-25
SYSTEM CONTROL P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-26
SYNC SUB P.C.BOARD SCM-27
SYNC P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-28
POWER P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-29
POWER SUB P.C.BOARD(FOR PAL MODEL) SCM-30
CCD MOUNT P.C.BOARD SCM-30
FRONT SW P.C.BOARD SCM-30
RIGHT SIDE SW P.C.BOARD SCM-31
RIGHT SIDE SUB P.C.BOARD SCM-31
RIGHT SIDE SUB P.C.BOARD(FOR PAL MODEL) SCM-31
LEFT SIDE SW P.C.BOARD SCM-31
LEFT SIDE SUB P.C.BOARD SCM-32
79P P.C.BOARD(FOR NTSC MODEL) (FOR PAL MODEL) SCM-32
OG ADJ P.C.BOARD SCM-32
BRAKER P.C.BOARD SCM-32
MIC P.C.BOARD(FOR NTSC MODEL) SCM-32
MIC P.C.BOARD(FOR PAL MODEL) SCM-32

CONTENTS

IC INFORMATION .... 1~14

BLOCK DIAGRAM

OVER ALL BLOCK DIAGRAM BLK-1

PRE AMP BLOCK DIAGRAM BLK-2

PRE PROCESS BLOCK DIAGRAM BLK-3

DIGITAL PROCESS BLOCK DIAGRAM BLK-4

ENCODER BLOCK DIAGRAM BLK-5

PULSE BLOCK DIAGRAM BLK-6

CCD DRIVE & CCD BLOCK DIAGRAM BLK-7

SYSTEM CONTROL BLOCK DIAGRAM 1/2 .... BLK-8

SYSTEM CONTROL BLOCK DIAGRAM 2/2 .... BLK-9

SYNC BLOCK DIAGRAM(FOR NTSC MODEL) BLK-10

SYNC BLOCK DIAGRAM(FOR PAL MODEL) BLK-11

SCHEMATIC DIAGRAM

INTERCONNECTION SCM-1

MOTHER SCHEMATIC DIAGRAM SCM-2

PRE AMP SCHEMATIC DIAGRAM SCM-3

PRE PROCESS SCHEMATIC DIAGRAM SCM-4

DIGITAL PROCESS SCHEMATIC DIAGRAM 1/2 .... SCM-5

DIGITAL PROCESS SCHEMATIC DIAGRAM 2/2 .... SCM-6

ENCODER SCHEMATIC DIAGRAM(FOR NTSC MODEL) SCM-7

ENCODER SCHEMATIC DIAGRAM(FOR PAL MODEL) SCM-8

PULSE SCHEMATIC DIAGRAM SCM-9

CCD DRIVE SCHEMATIC DIAGRAM SCM-10

SYSTEM CONTROL SCHEMATIC DIAGRAM 1/2 .... SCM-11

SYSTEM CONTROL SCHEMATIC DIAGRAM 2/2 .... SCM-12

SYNC SCHEMATIC DIAGRAM(FOR NTSC MODEL) SCM-13

SYNC SCHEMATIC DIAGRAM(FOR PAL MODEL) SCM-14

POWER SCHEMATIC DIAGRAM SCM-15

CCD MOUNT SCHEMATIC DIAGRAM SCM-16

FRONT SW SCHEMATIC DIAGRAM SCM-16

RIGHT SIDE SW SCHEMATIC DIAGRAM SCM-16

LEFT SIDE SW SCHEMATIC DIAGRAM SCM-16

79P SCHEMATIC DIAGRAM SCM-17

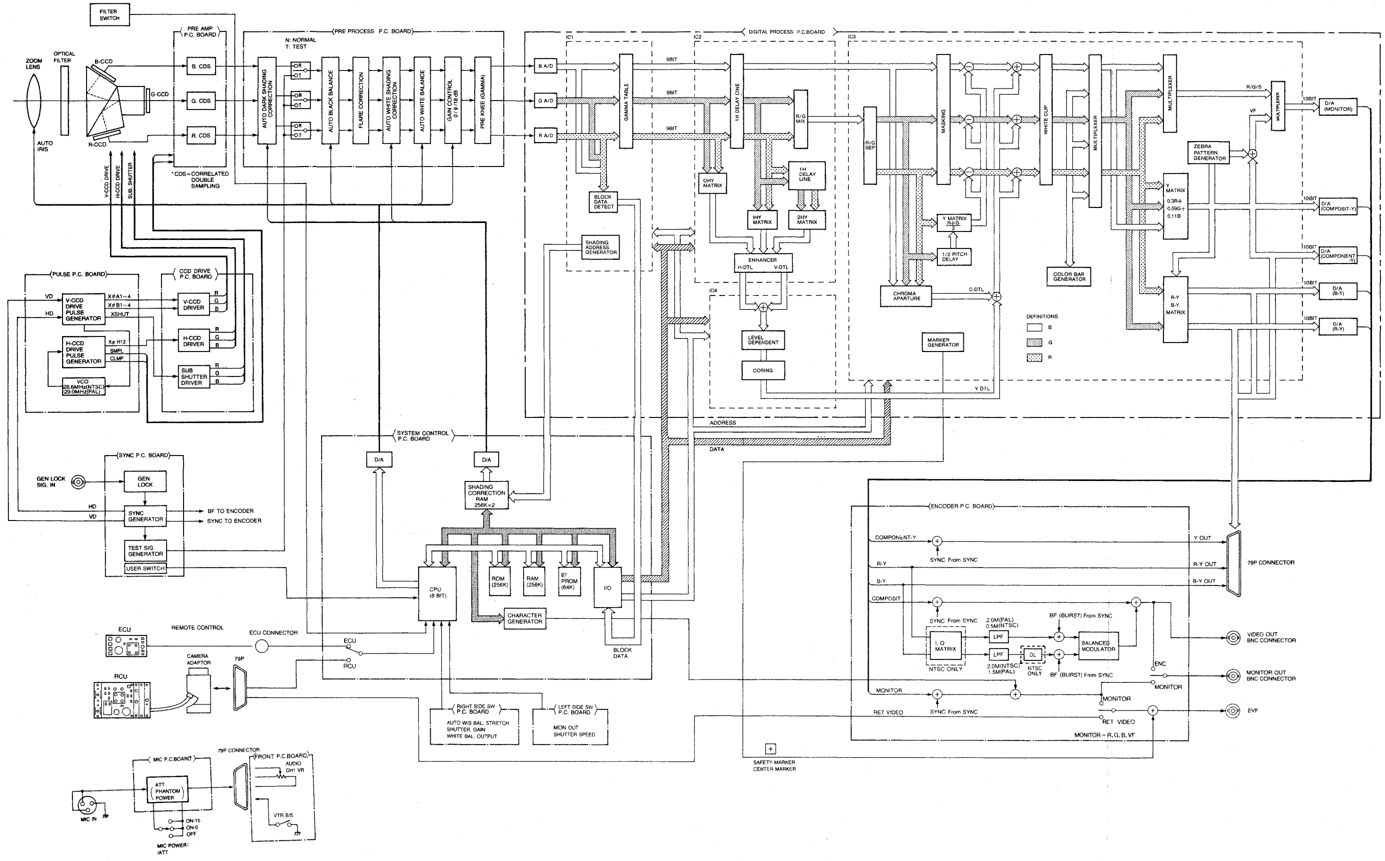
OG ADJ SCHEMATIC DIAGRAM SCM-17

BRAKER SCHEMATIC DIAGRAM SCM-17

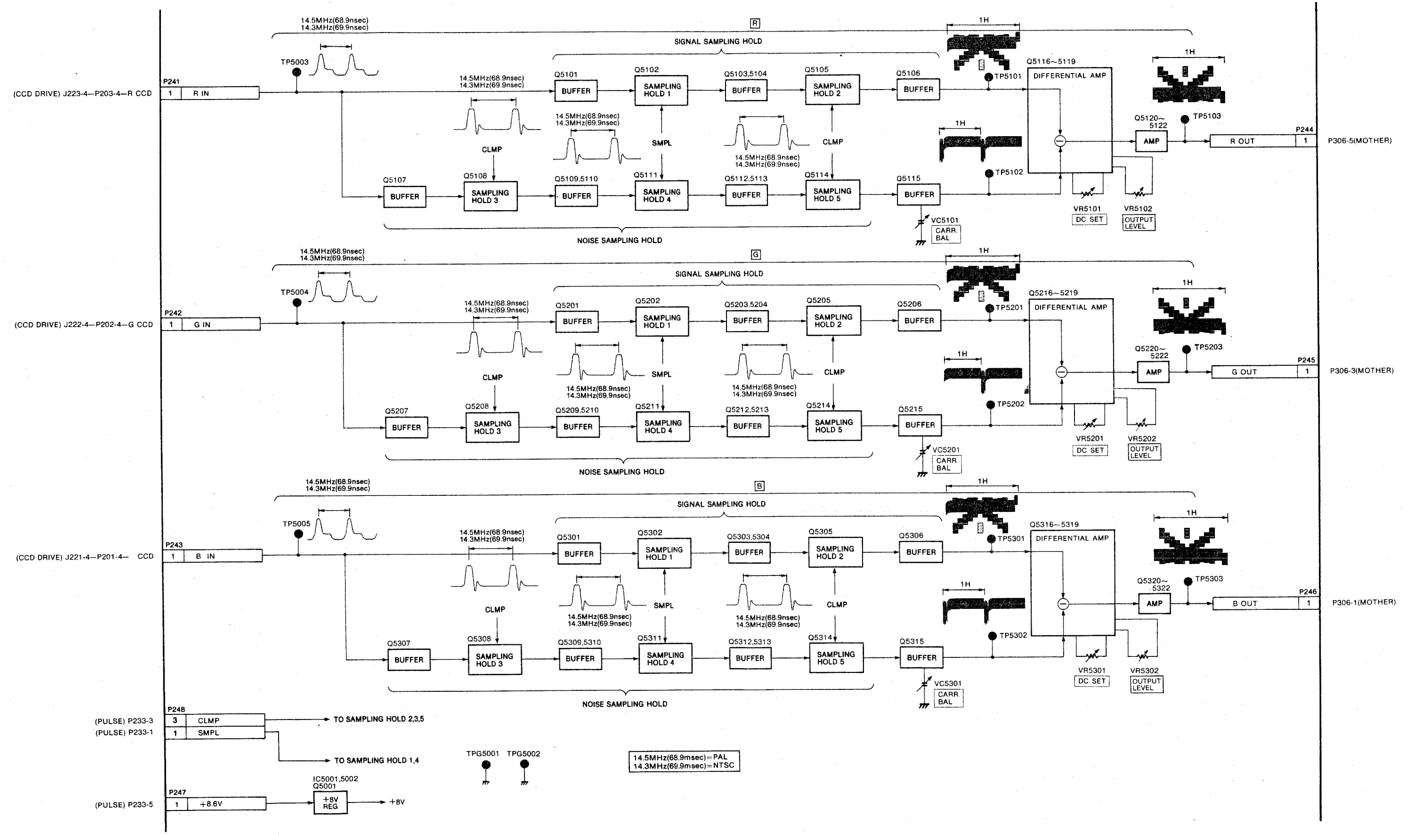
MIC SCHEMATIC DIAGRAM(FOR NTSC MODEL) SCM-17

MIC SCHEMATIC DIAGRAM(FOR PAL MODEL) SCM-17

OVER ALL BLOCK DIAGRAM

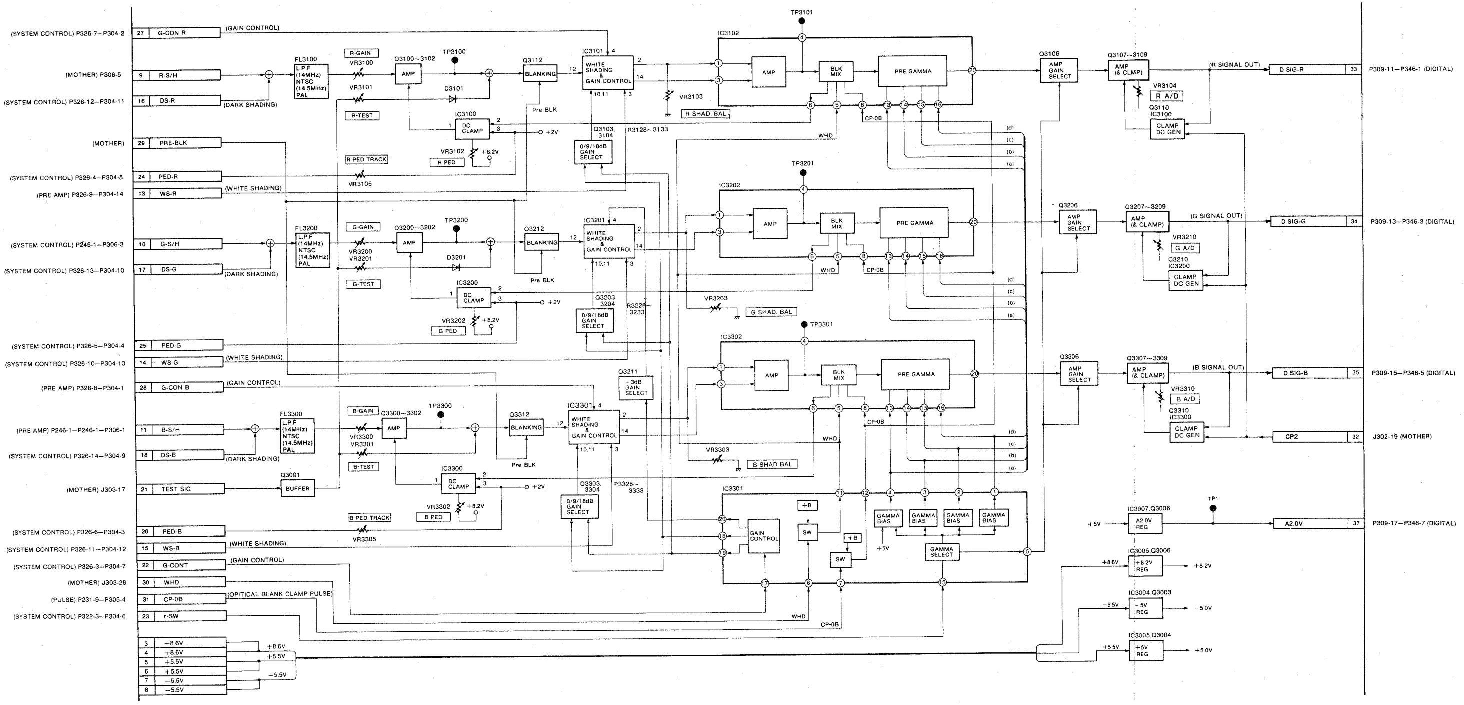

FILTER SWITCH
ZOOM LENS
OPTICAL FILTER
B-CCD
G-CCD
R-CCD
AUTO IRIS
PRE AMP P.C. BOARD
B. CDS
G. CDS
R. CDS
*CDS=CORRELATED DOUBLE SAMPLING
V-CCD DRIVE
H-CCD DRIVE
SUB. SHUTTER
PRE PROCESS P.C. BOARD
N: NORMAL
T: TEST
AUTO DARK SHADING CORRECTION
AUTO BLACK BALANCE
FLARE CORRECTION
AUTO WHITE SHADING CORRECTION
AUTO WHITE BALANCE
GAIN CONTROL 0/9/18dB
PRE KNEE (GAMMA)
DIGITAL PROCESS P.C.BOARD
IC1
IC2
IC3
IC4
B A/D
G A/D
R A/D
9BIT
GAMMA TABLE
BLOCK DATA DETECT
SHADING ADDRESS GENERATOR
1H DELAY LINE
R/G MIX
0HY MATRIX
1H DELAY LINE
1HY MATRIX
2HY MATRIX
ENHANCER
H-DTL
V-DTL
LEVEL DEPENDENT
CORING
R/G SEP
MASKING
Y MATRIX R+G/2
1/2 PITCH DELAY
CHROMA APARTURE
C-DTL
Y DTL
WHITE CLIP
COLOR BAR GENERATOR
MULTIPLEXER
MARKER GENERATOR
DEFINITIONS
B
G
R
MULTIPLEXER
ZEBRA PATTERN GENERATOR
Y MATRIX
0.3R+
0.59G+
0.11B
R-Y
B-Y
MATRIX
R/G/B
VF
MULTIPLEXER
10BIT
D/A (MONITOR)
D/A (COMPOSIT-Y)
D/A (COMPONENT-Y)
D/A (B-Y)
D/A (R-Y)
ADDRESS
DATA
PULSE P.C. BOARD
VD
HD
V-CCD DRIVE PULSE GENERATOR
Xφ A1~4
Xφ B1~4
XSHUT
H-CCD DRIVE PULSE GENERATOR
Xφ H12
SMPL
CLMP
VCO
28.6MHz(NTSC)
29.0MHz(PAL)
CCD DRIVE P.C. BOARD
V-CCD DRIVER
H-CCD DRIVER
SUB SHUTTER DRIVER
R
G
B
SYNC P.C. BOARD
GEN LOCK SIG. IN
GEN LOCK
HD
VD
SYNC GENERATOR
BF TO ENCODER
SYNC TO ENCODER
TEST SIG GENERATOR
USER SWITCH
SYSTEM CONTROL P.C. BOARD
D/A
D/A
SHADING CORRECTION RAM 256K×2
CPU (8 BIT)
ROM (256K)
RAM (256K)
E² PROM (64K)
I/O
CHARACTER GENERATOR
BLOCK DATA
ECU
REMOTE CONTROL
ECU CONNECTOR
ECU
RCU
RCU
CAMERA ADAPTOR
79P
RIGHT SIDE SW P.C. BOARD
AUTO W/B BAL. STRETCH
SHUTTER, GAIN
WHITE BAL. OUTPUT
LEFT SIDE SW P.C. BOARD
MON OUT
SHUTTER SPEED
MIC P.C.BOARD
ATT (PHANTOM POWER)
ON-15
ON-0
OFF
MIC POWER/ATT
MIC IN
79P CONNECTOR
FRONT P.C.BOARD
AUDIO
CH1 VR
VTR S/S
SAFETY MARKER
CENTER MARKER
ENCODER P.C BOARD
COMPONENT-Y
SYNC From SYNC
R-Y
B-Y
COMPOSIT
SYNC From SYNC
I, Q MATRIX
NTSC ONLY
LPF
2.0M(PAL)
0.5M(NTSC)
LPF
2.0M(NTSC)
1.5M(PAL)
DL
NTSC ONLY
BF (BURST) From SYNC
BF (BURST) From SYNC
BALANCED MODULATOR
MONITOR
RET VIDEO
SYNC From SYNC
Y OUT
R-Y OUT
B-Y OUT
79P CONNECTOR
ENC
MONITOR
MONITOR
RET VIDEO
MONITOR=R, G, B, VF
VIDEO OUT BNC CONNECTOR
MONITOR OUT BNC CONNECTOR
EVF

PRE AMP BLOCK DIAGRAM

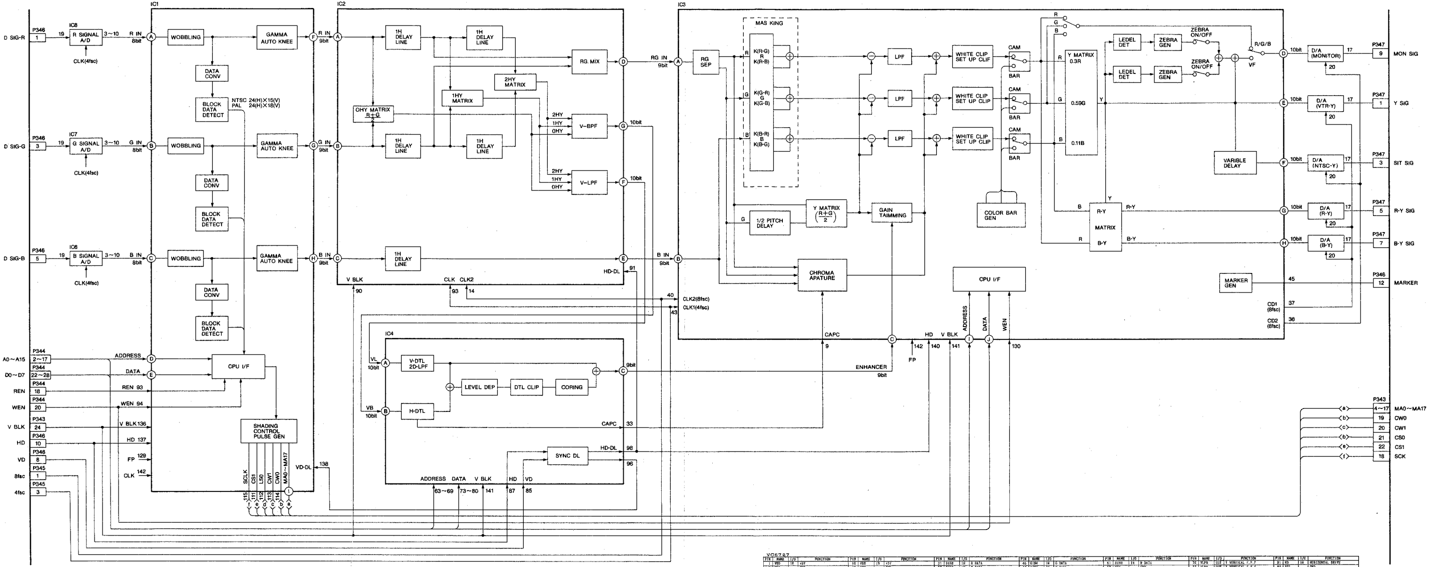

(CCD DRIVE) J223-4—P203-4—R CCD
P241
1 R IN
TP5003
14.5MHz(68.9nsec)
14.3MHz(69.9nsec)
R
SIGNAL SAMPLING HOLD
Q5101 BUFFER
Q5102 SAMPLING HOLD 1
Q5103,5104 BUFFER
Q5105 SAMPLING HOLD 2
Q5106 BUFFER
CLMP
SMPL
Q5107 BUFFER
Q5108 SAMPLING HOLD 3
Q5109,5110 BUFFER
Q5111 SAMPLING HOLD 4
Q5112,5113 BUFFER
Q5114 SAMPLING HOLD 5
Q5115 BUFFER
NOISE SAMPLING HOLD
VC5101 CARR. BAL
1H
TP5101
TP5102
Q5116~5119 DIFFERENTIAL AMP
Q5120~5122 AMP
TP5103
VR5101 DC SET
VR5102 OUTPUT LEVEL
P244
R OUT 1
P306-5(MOTHER)
(CCD DRIVE) J222-4—P202-4—G CCD
P242
1 G IN
TP5004
G
Q5201 BUFFER
Q5202 SAMPLING HOLD 1
Q5203,5204 BUFFER
Q5205 SAMPLING HOLD 2
Q5206 BUFFER
Q5207 BUFFER
Q5208 SAMPLING HOLD 3
Q5209,5210 BUFFER
Q5211 SAMPLING HOLD 4
Q5212,5213 BUFFER
Q5214 SAMPLING HOLD 5
Q5215 BUFFER
VC5201 CARR. BAL
TP5201
TP5202
Q5216~5219 DIFFERENTIAL AMP
Q5220~5222 AMP
TP5203
VR5201 DC SET
VR5202 OUTPUT LEVEL
P245
G OUT 1
P306-3(MOTHER)
(CCD DRIVE) J221-4—P201-4— CCD
P243
1 B IN
TP5005
B
Q5301 BUFFER
Q5302 SAMPLING HOLD 1
Q5303,5304 BUFFER
Q5305 SAMPLING HOLD 2
Q5306 BUFFER
Q5307 BUFFER
Q5308 SAMPLING HOLD 3
Q5309,5310 BUFFER
Q5311 SAMPLING HOLD 4
Q5312,5313 BUFFER
Q5314 SAMPLING HOLD 5
Q5315 BUFFER
VC5301 CARR. BAL
TP5301
TP5302
Q5316~5319 DIFFERENTIAL AMP
Q5320~5322 AMP
TP5303
VR5301 DC SET
VR5302 OUTPUT LEVEL
P246
B OUT 1
P306-1(MOTHER)
P248
(PULSE) P233-3 3 CLMP
(PULSE) P233-1 1 SMPL
TO SAMPLING HOLD 2,3,5
TO SAMPLING HOLD 1,4
TPG5001 TPG5002
P247
(PULSE) P233-5 1 +8.6V
IC5001,5002 Q5001
+8V REG
+8V
14.5MHz(68.9msec)=PAL
14.3MHz(69.9msec)=NTSC

REVERSE SIDE OVER ALL BLOCK DIAGRAM

PRE PROCESS BLOCK DIAGRAM


(SYSTEM CONTROL) P326-7—P304-2
27 G-CON R
(GAIN CONTROL)
(MOTHER) P306-5
9 R-S/H
(SYSTEM CONTROL) P326-12—P304-11
16 DS-R
(DARK SHADING)
(MOTHER)
29 PRE-BLK
(SYSTEM CONTROL) P326-4—P304-5
24 PED-R
(PRE AMP) P326-9—P304-14
13 WS-R
(WHITE SHADING)
(SYSTEM CONTROL) P245-1—P306-3
10 G-S/H
(SYSTEM CONTROL) P326-13—P304-10
17 DS-G
(DARK SHADING)
(SYSTEM CONTROL) P326-5—P304-4
25 PED-G
(SYSTEM CONTROL) P326-10—P304-13
14 WS-G
(WHITE SHADING)
(PRE AMP) P326-8—P304-1
28 G-CON B
(GAIN CONTROL)
(PRE AMP) P246-1—P246-1—P306-1
11 B-S/H
(SYSTEM CONTROL) P326-14—P304-9
18 DS-B
(DARK SHADING)
(MOTHER) J303-17
21 TEST SIG
Q3001
BUFFER
(SYSTEM CONTROL) P326-6—P304-3
26 PED-B
(SYSTEM CONTROL) P326-11—P304-12
15 WS-B
(WHITE SHADING)
(SYSTEM CONTROL) P326-3—P304-7
22 G-CONT
(GAIN CONTROL)
(MOTHER) J303-28
30 WHD
(PULSE) P231-9—P305-4
31 CP-0B
(OPTICAL BLANK CLAMP PULSE)
(SYSTEM CONTROL) P322-3—P304-6
23 r-SW
3 +8.6V
4 +8.6V
5 +5.5V
6 +5.5V
7 −5.5V
8 −5.5V
+8.6V
+5.5V
−5.5V
FL3100
L.P.F (14MHz) NTSC (14.5MHz) PAL
R-GAIN
VR3100
VR3101
R-TEST
Q3100~3102
AMP
TP3100
D3101
IC3100
DC CLAMP
+2V
VR3102
+8.2V
R PED
R PED TRACK
VR3105
Q3112
BLANKING
Pre BLK
IC3101
WHITE SHADING & GAIN CONTROL
Q3103, 3104
0/9/18dB GAIN SELECT
R3128~3133
VR3103
R SHAD. BAL.
TP3101
IC3102
AMP
BLK MIX
PRE GAMMA
WHD
CP-0B
(a) (b) (c) (d)
Q3106
AMP GAIN SELECT
Q3107~3109
AMP (& CLMP)
VR3104
R A/D
Q3110 IC3100
CLAMP DC GEN
(R SIGNAL OUT)
D SIG-R 33
P309-11—P346-1 (DIGITAL)
FL3200
L.P.F (14MHz) NTSC (14.5MHz) PAL
G-GAIN
VR3200
VR3201
G-TEST
Q3200~3202
AMP
TP3200
D3201
IC3200
DC CLAMP
+2V
VR3202
+8.2V
G PED
Q3212
BLANKING
Pre BLK
IC3201
WHITE SHADING & GAIN CONTROL
Q3203, 3204
0/9/18dB GAIN SELECT
R3228~3233
VR3203
G SHAD. BAL
TP3201
IC3202
AMP
BLK MIX
PRE GAMMA
WHD
CP-0B
Q3206
AMP GAIN SELECT
Q3207~3209
AMP (& CLAMP)
VR3210
G A/D
Q3210 IC3200
CLAMP DC GEN
(G SIGNAL OUT)
D SIG-G 34
P309-13—P346-3 (DIGITAL)
Q3211
−3dB GAIN SELECT
FL3300
L.P.F (14MHz) NTSC (14.5MHz) PAL
B-GAIN
VR3300
VR3301
B-TEST
Q3300~3302
AMP
TP3300
IC3300
DC CLAMP
+2V
VR3302
+8.2V
B PED
B PED TRACK
VR3305
Q3312
BLANKING
Pre BLK
IC3301
WHITE SHADING & GAIN CONTROL
Q3303, 3304
0/9/18dB GAIN SELECT
P3328~3333
VR3303
B SHAD BAL
TP3301
IC3302
AMP
BLK MIX
PRE GAMMA
WHD
CP-0B
Q3306
AMP GAIN SELECT
Q3307~3309
AMP (& CLAMP)
VR3310
B A/D
Q3310 IC3300
CLAMP DC GEN
(B SIGNAL OUT)
D SIG-B 35
P309-15—P346-5 (DIGITAL)
CP2 32
J302-19 (MOTHER)
IC3301
GAIN CONTROL
+B
SW
+B
SW
+5V
GAMMA BIAS
GAMMA BIAS
GAMMA BIAS
GAMMA BIAS
GAMMA SELECT
WHD
CP-0B
TP1
IC3007,Q3006
+5V
A2.0V REG
A2.0V 37
P309-17—P346-7 (DIGITAL)
IC3005,Q3006
+8.6V
+8.2V REG
+8.2V
IC3004,Q3003
−5.5V
−5V REG
−5.0V
IC3005,Q3004
+5.5V
+5V REG
+5.0V

DIGITAL PROCESS BLOCK DIAGRAM



IC3001

A		B		C		D				E		F		G		H		I			
69	R11	58	G11	47	B11	90	A0	90	A0	104	D0	3	R20	14	G20	26	B20	134	MA0	122	MA10
68	R12	57	G12	46	B12	89	A1	89	A1	103	D1	4	R21	15	G21	27	B21	133	MA1	121	MA11
67	R13	56	G13	45	B13	88	A2	88	A2	102	D2	5	R22	16	G22	28	B22	132	MA2	120	MA12
66	R14	55	G14	44	B14	87	A3	87	A3	101	D3	6	R23	17	G23	29	B23	131	MA3	119	MA13
65	R15	54	G15	43	B15	86	A4	86	A4	100	D4	7	R24	18	G24	30	B24	130	MA4	118	MA14
64	R16	53	G16	42	B16	85	A5	85	A5	99	D5	8	R25	19	G25	31	B25	129	MA5		
63	R17	52	G17	41	B17	84	A6	84	A6	98	D6	9	R26	20	G26	32	B26	128	MA6		
62	R18	51	G18	40	B18	83	A7	83	A7	97	D7	10	R27	21	G27	33	B27	125	MA7		
						82	A8	82	A8			11	R28	22	G28	34	B28	124	MA8		
						81	A9	81	A9									123	MA9		

IC3002

A		B		C		D		E		F		G	
61	R20	50	G20	31	B20	7	RG30	20	B30	85	VL0	73	VB0
60	R21	49	G21	32	B21	8	RG31	21	B31	84	VL1	72	VB1
59	R22	48	G22	33	B22	9	RG32	22	B32	83	VL2	71	VB2
58	R23	47	G23	34	B23	10	RG33	23	B33	82	VL3	70	VB3
57	R24	46	G24	35	B24	11	RG34	24	B34	81	VL4	69	VB4
56	R25	45	G25	36	B25	12	RG35	25	B35	80	VL5	68	VB5
55	R26	44	G26	37	B26	13	RG36	26	B36	79	VL6	67	VB6
54	R27	43	G27	38	B27	14	RG37	27	B37	78	VL7	66	VB7
53	R28	42	G28	39	B28	15	RG38	28	B38	77	VL8	65	VB8
										76	VL9	64	VB9

IC3003

A		B		C		D		E		F		G		H		I		J	
15	RG30	26	B30	114	ENH0	47	MON0	108	Y0	61	NTY0	96	RY0	82	BY0	131	A0	118	D0
16	RG31	27	B31	1	ENH1	48	MON1	107	Y1	62	NTY1	95	RY1	81	BY1	132	A1	119	D1
17	RG32	28	B32	2	ENH2	49	MON2	106	Y2	63	NTY2	94	RY2	80	BY2	133	A2	120	D2
18	RG33	29	B33	3	ENH3	50	MON3	105	Y3	64	NTY3	93	RY3	79	BY3	134	A3	121	D3
19	RG34	30	B34	4	ENH4	51	MON4	104	Y4	65	NTY4	92	RY4	78	BY4	135	A4	122	D4
20	RG35	31	B35	5	ENH5	52	MON5	103	Y5	66	NTY5	91	RY5	77	BY5	136	A5	123	D5
21	RG36	32	B36	6	ENH6	53	MON6	102	Y6	67	NTY6	90	RY6	76	BY6	137	A6	124	D6
22	RG37	33	B37	7	ENH7	54	MON7	101	Y7	68	NTY7	89	RY7	75	BY7			125	D7
23	RG38	34	B38	8	ENH8	55	MON8	100	Y8	69	NTY8	88	RY8	74	BY8				
						56	MON9	99	Y9	70	NTY9	87	RY9	73	BY9				

IC3004

A		B		C	
7	VL0	19	VB0	42	ENH0
8	VL1	20	VB1	41	ENH1
9	VL2	21	VB2	40	ENH2
10	VL3	22	VB3	39	ENH3
11	VL4	23	VB4	38	ENH4
12	VL5	24	VB5	37	ENH5
13	VL6	25	VB6	36	ENH6
14	VL7	26	VB7	35	ENH7
15	VL8	27	VB8	34	ENH8
16	VL9	28	VB9	33	ENH9

VC5727

PIN	NAME	I/O	FUNCTION
1	VDD	IN	+5V
2	VSS		GND
3	VDD	IN	+5V
4	VSS		GND
5	VDD	IN	+5V
6	CAA		GND
7	RG00	OUT	RG TIME SHARING
8	RG01	OUT	RG TIME SHARING
9	RG02	OUT	RG TIME SHARING
10	RG03	OUT	RG TIME SHARING
11	RG04	OUT	RG TIME SHARING
12	RG05	OUT	RG TIME SHARING
13	RG06	OUT	RG TIME SHARING
14	RG07	OUT	RG TIME SHARING
15	RG08	OUT	RG TIME SHARING
16	VDD	IN	+5V
17	VSS		GND
18	VDD	IN	+5V
19	VSS		GND
20	B00	OUT	B DATA
21	B01	OUT	B DATA
22	B02	OUT	B DATA
23	B03	OUT	B DATA
24	B04	OUT	B DATA
25	B05	OUT	B DATA
26	B06	OUT	B DATA
27	B07	OUT	B DATA
28	B08	OUT	B DATA
29	VDD	IN	+5V
30	VSS		GND
31	BIN8	IN	B DATA
32	BIN7	IN	B DATA
33	BIN6	IN	B DATA
34	BIN5	IN	B DATA
35	BIN4	IN	B DATA
36	BIN3	IN	B DATA
37	BIN2	IN	B DATA
38	BIN1	IN	B DATA
39	BIN0	IN	B DATA
40	VSS		GND
41	VDD	IN	+5V
42	GIN8	IN	G DATA
43	GIN7	IN	G DATA
44	GIN6	IN	G DATA
45	GIN5	IN	G DATA
46	GIN4	IN	G DATA
47	GIN3	IN	G DATA
48	GIN2	IN	G DATA
49	GIN1	IN	G DATA
50	GIN0	IN	G DATA
51	VSS		GND
52	VDD	IN	+5V
53	RIN8	IN	R DATA
54	RIN7	IN	R DATA
55	RIN6	IN	R DATA
56	RIN5	IN	R DATA
57	RIN4	IN	R DATA
58	RIN3	IN	R DATA
59	RIN2	IN	R DATA
60	RIN1	IN	R DATA
61	RIN0	IN	R DATA
62	VSS		GND
63	VDD	IN	+5V
64	VBP9	OUT	Y VERTICAL B.P.F
65	VBP8	OUT	Y VERTICAL B.P.F
66	VBP7	OUT	Y VERTICAL B.P.F
67	VBP6	OUT	Y VERTICAL B.P.F
68	VBP5	OUT	Y VERTICAL B.P.F
69	VBP4	OUT	Y VERTICAL B.P.F
70	VBP3	OUT	Y VERTICAL B.P.F
71	VBP2	OUT	Y VERTICAL B.P.F
72	VBP1	OUT	Y VERTICAL B.P.F
73	VBP0	OUT	Y VERTICAL B.P.F
74	VDD	IN	+5V
75	VSS		GND
76	VLP9	OUT	Y VERTICAL L.P.F
77	VLP8	OUT	Y VERTICAL L.P.F
78	VLP7	OUT	Y VERTICAL L.P.F
79	VLP6	OUT	Y VERTICAL L.P.F
80	VLP5	OUT	Y VERTICAL L.P.F
81	VSS		GND
82	VDD	IN	+5V
83	VLP4	OUT	Y VERTICAL L.P.F
84	VLP3	OUT	Y VERTICAL L.P.F
85	VLP2	OUT	Y VERTICAL L.P.F
86	VLP1	OUT	Y VERTICAL L.P.F
87	VLP0	OUT	Y VERTICAL L.P.F
88	LS2X	IN	Y VERTICAL L.P.F CONT
89	LS2Y	IN	Y VERTICAL L.P.F CONT
90	VBLK	IN	V BLANKING
91	HD	IN	HORIZONTAL DRIVE
92	VSS		GND
93	VDD	IN	+5V
94	CLK	IN	4FSC
95	CLK2	IN	8FSC
96	RGSELC	IN	RG TIME SHARING CONT
97	BINCT	IN	IN DELAY B DATA
98	PXOFF	IN	PICTURE ELEMENT OFFSET
99	CLBLK	IN	CLOCK BLANKING
100	VSS		GND
101			
102			
103			
104			
105			

VC5776

PIN	NAME	I/O	FUNCTION
1	NC		
2	VDD	IN	+5V
3	ROUT0	OUT	R DATA
4	ROUT1	OUT	R DATA
5	ROUT2	OUT	R DATA
6	ROUT3	OUT	R DATA
7	ROUT4	OUT	R DATA
8	ROUT5	OUT	R DATA
9	ROUT6	OUT	R DATA
10	ROUT7	OUT	R DATA
11	ROUT8	OUT	R DATA
12	VDD	IN	+5V
13	VSS		GND
14	GOUT0	OUT	G DATA
15	GOUT1	OUT	G DATA
16	GOUT2	OUT	G DATA
17	GOUT3	OUT	G DATA
18	GOUT4	OUT	G DATA
19	GOUT5	OUT	G DATA
20	GOUT6	OUT	G DATA
21	GOUT7	OUT	G DATA
22	GOUT8	OUT	G DATA
23	VDD	IN	+5V
24	VSS		GND
25	VSS		GND
26	BOUT0	OUT	B DATA
27	BOUT1	OUT	B DATA
28	BOUT2	OUT	B DATA
29	BOUT3	OUT	B DATA
30	BOUT4	OUT	B DATA
31	BOUT5	OUT	B DATA
32	BOUT6	OUT	B DATA
33	BOUT7	OUT	B DATA
34	BOUT8	OUT	B DATA
35	WOBF	OUT	B DATA
36	NC		
37	NC		
38	VDD	IN	+5V
39	VSS		GND
40	BIN8	IN	B DATA
41	BIN7	IN	B DATA
42	BIN6	IN	B DATA
43	BIN5	IN	B DATA
44	BIN4	IN	B DATA
45	BIN3	IN	B DATA
46	BIN2	IN	B DATA
47	BIN1	IN	B DATA
48	BIN0	IN	B DATA
49	VDD	IN	+5V
50	VSS		GND
51	GIN8	IN	G DATA
52	GIN7	IN	G DATA
53	GIN6	IN	G DATA
54	GIN5	IN	G DATA
55	GIN4	IN	G DATA
56	GIN3	IN	G DATA
57	GIN2	IN	G DATA
58	GIN1	IN	G DATA
59	GIN0	IN	G DATA
60	VSS		GND
61	VDD		+5V
62	RIN8	IN	R DATA
63	RIN7	IN	R DATA
64	RIN6	IN	R DATA
65	RIN5	IN	R DATA
66	RIN4	IN	R DATA
67	RIN3	IN	R DATA
68	RIN2	IN	R DATA
69	RIN1	IN	R DATA
70	RIN0	IN	R DATA
71	VSS		GND
72	NC		
73	NC		
74	VDD	IN	+5V
75	ADR15	IN	ADDRESS
76	ADR14	IN	ADDRESS
77	ADR13	IN	ADDRESS
78	ADR12	IN	ADDRESS
79	ADR11	IN	ADDRESS
80	ADR10	IN	ADDRESS
81	ADR9	IN	ADDRESS
82	ADR8	IN	ADDRESS
83	ADR7	IN	ADDRESS
84	ADR6	IN	ADDRESS
85	ADR5	IN	ADDRESS
86	ADR4	IN	ADDRESS
87	ADR3	IN	ADDRESS
88	ADR2	IN	ADDRESS
89	ADR1	IN	ADDRESS
90	ADR0	IN	ADDRESS
91	VDD	IN	+5V
92	VSS		GND
93	R	IN	READ ENABLE
94	W	IN	WRITE ENABLE
95	VDD	IN	+5V
96	VSS		GND
97	DB7	IN	DATA (CPU)
98	DB6	IN	DATA (CPU)
99	DB5	IN	DATA (CPU)
100	DB4	IN	DATA (CPU)
101	DB3	IN	DATA (CPU)
102	DB2	IN	DATA (CPU)
103	DB1	IN	DATA (CPU)
104	DB0	IN	DATA (CPU)
105	LMW	IN	LOAD MEMORY WRITE
106	CHIP3	OUT	
107	CHIP4	OUT	
108	NC		
109	NC		
110	VSS		GND
111	CS1	OUT	SHADING MEMORY CS (WHITE)
112	CS0	OUT	SHADING MEMORY CS (BLACK)
113	CW1	OUT	SHADING MEMORY WE (WHITE)
114	CW0	OUT	SHADING MEMORY WE (BLACK)
115	SCLK	OUT	SHADING CLOCK
116	VDD	IN	+5V
117	VSS		GND
118	SAD14	OUT	SHADING ADDRESS
119	SAD13	OUT	SHADING ADDRESS
120	SAD12	OUT	SHADING ADDRESS
121	SAD11	OUT	SHADING ADDRESS
122	SAD10	OUT	SHADING ADDRESS
123	SAD9	OUT	SHADING ADDRESS
124	SAD8	OUT	SHADING ADDRESS
125	SAD7	OUT	SHADING ADDRESS
126	VDD	IN	+5V
127	VDD	IN	+5V
128	SAD6	OUT	SHADING ADDRESS
129	SAD5	OUT	SHADING ADDRESS
130	SAD4	OUT	SHADING ADDRESS
131	SAD3	OUT	SHADING ADDRESS
132	SAD2	OUT	SHADING ADDRESS
133	SAD1	OUT	SHADING ADDRESS
134	SAD0	OUT	SHADING ADDRESS
135	VSS		GND
136	VBLK	IN	V BLANKING
137	HD	IN	HORIZONTAL DRIVE
138	VD	IN	VERTICAL DRIVE
139	F	OUT	FIELD PULSE
140	VDD		+5V
141	VSS		GND
142	CLK	IN	4FSC
143	VSS		GND
144	NC		
145			
146			
147			
148			
149			
150			

VC5777

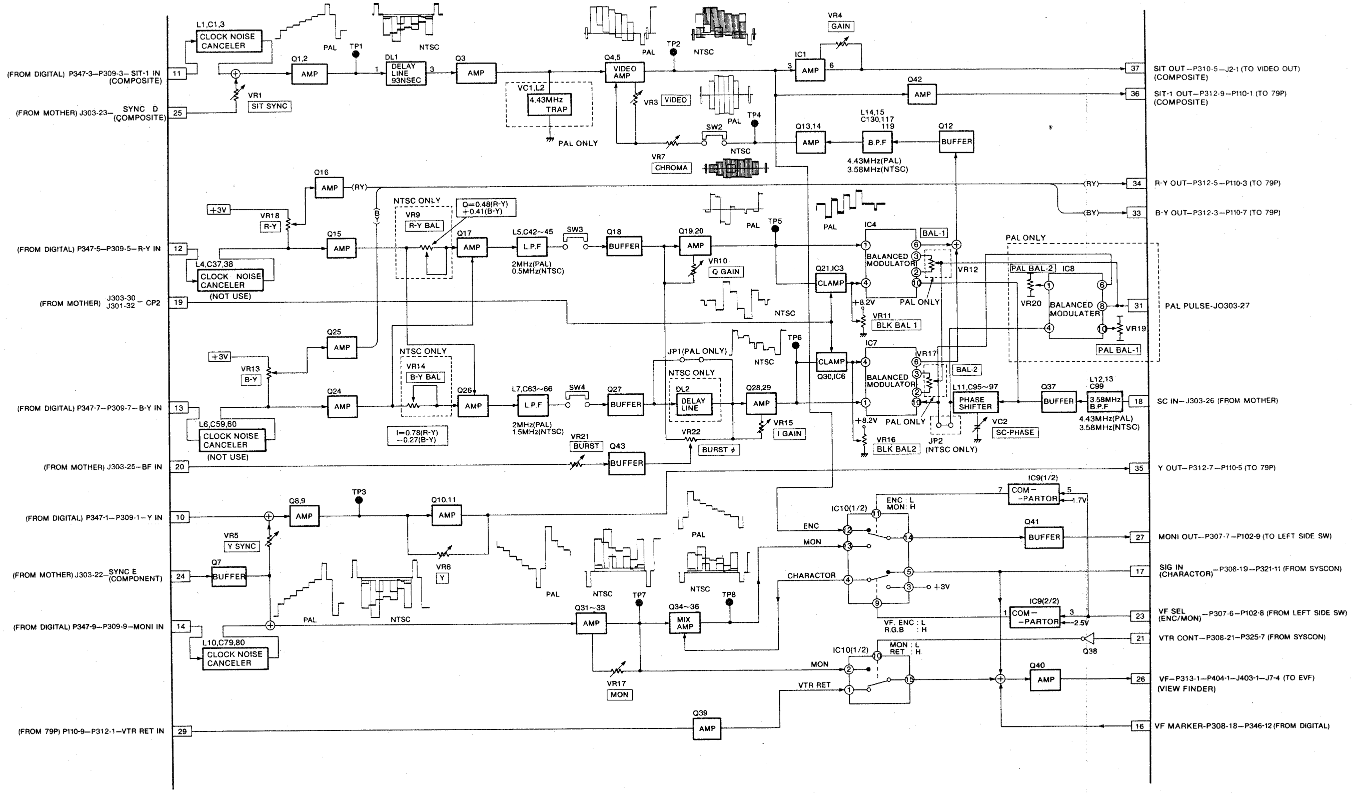
PIN	NAME	I/O	FUNCTION
1	ENH1	IN	ENHANCER
2	ENH2	IN	ENHANCER
3	ENH3	IN	ENHANCER
4	ENH4	IN	ENHANCER
5	ENH5	IN	ENHANCER
6	ENH6	IN	ENHANCER
7	ENH7	IN	ENHANCER
8	ENH8	IN	ENHANCER
9	CAPC	IN	COLOR APERTURE CONT
10	NBLK	IN	OBLIQUE BLANKING
11	VDD	IN	+5V
12	VSS		GND
13	VDD	IN	+5V
14	VSS		GND
15	RG0	IN	RG TIME SHARING
16	RG1	IN	RG TIME SHARING
17	RG2	IN	RG TIME SHARING
18	RG3	IN	RG TIME SHARING
19	RG4	IN	RG TIME SHARING
20	RG5	IN	RG TIME SHARING
21	RG6	IN	RG TIME SHARING
22	RG7	IN	RG TIME SHARING
23	RG8	IN	RG TIME SHARING
24	VDD	IN	+5V
25	VSS		GND
26	B0	IN	B DATA
27	B1	IN	B DATA
28	B2	IN	B DATA
29	B3	IN	B DATA
30	B4	IN	B DATA
31	B5	IN	B DATA
32	B6	IN	B DATA
33	B7	IN	B DATA
34	B8	IN	B DATA
35	CLKAD	OUT	CLOCK (A/D)
36	CLKDA2	OUT	CLOCK (D/A)
37	CLKDA1	OUT	CLOCK (D/A)
38	VDD	OUT	+5V
39	VSS		GND
40	CLK2	IN	8FSC
41	TEST2	IN	TEST
42	TEST1	IN	TEST
43	CLK	IN	4FSC
44	VDD	IN	+5V
45	VSS		GND
46	NAKU	OUT	
47	MON10	OUT	MONITOR
48	MON11	OUT	MONITOR
49	MON12	OUT	MONITOR
50	MON13	OUT	MONITOR
51	MON14	OUT	MONITOR
52	MON15	OUT	MONITOR
53	MON16	OUT	MONITOR
54	MON17	OUT	MONITOR
55	MON18	OUT	MONITOR
56	MON19	OUT	MONITOR
57	VDD	IN	+5V
58	VSS		GND
59	VDD	IN	+5V
60	VSS		GND
61	NTSC0	OUT	DELAY Y DATA
62	NTSC1	OUT	DELAY Y DATA
63	NTSC2	OUT	DELAY Y DATA
64	NTSC3	OUT	DELAY Y DATA
65	NTSC4	OUT	DELAY Y DATA
66	NTSC5	OUT	DELAY Y DATA
67	NTSC6	OUT	DELAY Y DATA
68	NTSC7	OUT	DELAY Y DATA
69	NTSC	OUT	DELAY Y DATA
70	NTSC9	OUT	DELAY Y DATA
71	VDD	IN	+5V
72	VSS		GND
73	BYB9	OUT	B-Y DATA
74	BYB8	OUT	B-Y DATA
75	BYB7	OUT	B-Y DATA
76	BYB6	OUT	B-Y DATA
77	BYB5	OUT	B-Y DATA
78	BYB4	OUT	B-Y DATA
79	BYB3	OUT	B-Y DATA
80	BYB2	OUT	B-Y DATA
81	BYB1	OUT	B-Y DATA
82	BYB0	OUT	B-Y DATA
83	VDD	IN	+5V
84	VSS		GND
85	VDD	IN	+5V
86	VSS		GND
87	RYR9	OUT	R-Y DATA
88	RYR8	OUT	R-Y DATA
89	RYR7	OUT	R-Y DATA
90	RYR6	OUT	R-Y DATA
91	RYR5	OUT	R-Y DATA
92	RYR4	OUT	R-Y DATA
93	RYR3	OUT	R-Y DATA
94	RYR2	OUT	R-Y DATA
95	RYR1	OUT	R-Y DATA
96	RYR0	OUT	R-Y DATA
97	VDD	IN	+5V
98	VSS		GND
99	YG9	OUT	Y DATA
100	YG8	OUT	Y DATA
101	YG7	OUT	Y DATA
102	YG6	OUT	Y DATA
103	YG5	OUT	Y DATA
104	YG4	OUT	Y DATA
105	YG3	OUT	Y DATA
106	YG2	OUT	Y DATA
107	YG1	OUT	Y DATA
108	YG0	OUT	Y DATA
109	VDD	IN	+5V
110	VSS		GND
111	CLK2OPT	OUT	8FSC (OPTICAL)
112	CLK2LSI	OUT	8FSC (LSI)
113	LSI3CLK2	IN	8FSC
114	CLKLSI	OUT	4FSC
115	LSI3CLK	IN	4FSC
116	VDD	IN	+5V
117	VSS		GND
118	DB0	IN	DATA (CPU)
119	DB1	IN	DATA (CPU)
120	DB2	IN	DATA (CPU)
121	DB3	IN	DATA (CPU)
122	DB4	IN	DATA (CPU)
123	DB5	IN	DATA (CPU)
124	DB6	IN	DATA (CPU)
125	DB7	IN	DATA (CPU)
126	VDD	IN	+5V
127	VSS		GND
128	VDD	IN	+5V
129	VSS		GND
130	W	IN	WRITE ENABLE (CPU)
131	ADR0	IN	ADDRES (CPU)
132	ADR1	IN	ADDRES (CPU)
133	ADR2	IN	ADDRES (CPU)
134	ADR3	IN	ADDRES (CPU)
135	ADR4	IN	ADDRES (CPU)
136	ADR5	IN	ADDRES (CPU)
137	ADR6	IN	ADDRES (CPU)
138	VDD	IN	+5V
139	VSS		GND
140	HD	IN	HORIZONTAL DRIVE
141	VBLK	IN	V BLANKING
142	F	IN	FIELD PULSE
143	CHIP3	IN	CS
144	ENH0	IN	ENHANCER
145			
146			
147			
148			
149			
150			

VC5778

PIN	NAME	I/O	FUNCTION
1	VSS		GND
2	VDD	IN	+5V
3	LS2Y	OUT	Y VETICAL L.P.F CONT
4	LS2X	OUT	Y VETICAL L.P.F CONT
5	VSS		GND
6	CDD	IN	+5V
7	VLP0	IN	Y VERTICAL L.P.F
8	VLP1	IN	Y VERTICAL L.P.F
9	VLP2	IN	Y VERTICAL L.P.F
10	VLP3	IN	Y VERTICAL L.P.F
11	VLP4	IN	Y VERTICAL L.P.F
12	VLP5	IN	Y VERTICAL L.P.F
13	VLP6	IN	Y VERTICAL L.P.F
14	VLP7	IN	Y VERTICAL L.P.F
15	VLP8	IN	Y VERTICAL L.P.F
16	VLP9	IN	Y VERTICAL
17	VDD	IN	+5V
18	VSS		GND
19	VBP0	IN	Y VERTICAL B.P.F
20	VBP1	IN	Y VERTICAL B.P.F
21	VBP2	IN	Y VERTICAL B.P.F
22	VBP3	IN	Y VERTICAL B.P.F
23	VBP4	IN	Y VERTICAL B.P.F
24	VBP5	IN	Y VERTICAL B.P.F
25	VBP6	IN	Y VERTICAL B.P.F
26	VBP7	IN	Y VERTICAL B.P.F
27	VBP8	IN	Y VERTICAL B.P.F
28	VBP9	IN	Y VERTICAL B.P.F
29	CHIP4	IN	CS
30	VDD	IN	+5V
31	VSS		GND
32	NBLK	OUT	OBLIQUE BLANKING
33	CAPC	OUT	CLOR APERTURE CONT
34	ENH8	OUT	ENHANCER
35	ENH7	OUT	ENHANCER
36	ENH6	OUT	ENHANCER
37	ENH5	OUT	ENHANCER
38	ENH4	OUT	ENHANCER
39	ENH3	OUT	ENHANCER
40	ENH2	OUT	ENHANCER
41	ENH1	OUT	ENHANCER
42	ENH0	OUT	ENHANCER
43	VSS		GND
44	VDD	IN	+5V
45	HAD3	IN	SKIN COLOR APERTURE CONT
46	HAD2	IN	SKIN COOR APERTURE CONT
47	HAD1	IN	SKIN COOR APERTURE CONT
48	HAD0	IN	SKIN COOR APERTURE CONT
49	VSS		GND
50	VDD	IN	+5V
51	VSS		GND
52	CLK	IN	4FSC
53	CLK2	IN	8FSC
54	VSS		GND
55	DYN0	IN	DYNAMIC APERTURE CONT
56	DYN1	IN	DYNAMIC APERTURE CONT
57	DYN2	IN	DYNAMIC APERTURE CONT
58	DYN3	IN	DYNAMIC APERTURE CONT
59	DYN4	IN	DYNAMIC APERTURE CONT
60	DYN5	IN	DYNAMIC APERTURE CONT
61	VSS		
62	VDD	IN	+5V
63	ADR0	IN	ADDRES (CPU)
64	ADR1	IN	ADDRES (CPU)
65	ADR2	IN	ADDRES (CPU)
66	ADR3	IN	ADDRES (CPU)
67	ADR4	IN	ADDRES (CPU)
68	ADR5	IN	ADDRES (CPU)
69	ADR6	IN	ADDRES (CPU)
70	W	IN	WRITE ENABLE (CPU)
71	VDD	IN	+5V
72	VSS		GND
73	DB0	IN	DATA (CPU)
74	DB1	IN	DATA (CPU)
75	DB2	IN	DATA (CPU)
76	DB3	IN	DATA (CPU)
77	DB4	IN	DATA (CPU)
78	DB5	IN	DATA (CPU)
79	DB6	IN	DATA (CPU)
80	DB7	IN	DATA (CPU)
81	VDD	IN	+5V
82	VSS		GND
83	SYNC	IN	SYNC PULSE
84	BLK	IN	BLANKING PULSE
85	BF	IN	BURST FLAG
86	PP	IN	PAL PULSE
87	SP	IN	AUX PULSE
88	VDD	IN	+5V
89	VSS		GND
90	SYNC1	OUT	DELAYED SYNC PULSE
91	SYNC2	OUT	DELAYED SYNC PULSE
92	SYNC3	OUT	DELAYED SYNC PULSE
93	BLK1	OUT	DELAYED BLK PULSE
94	BLK2	OUT	DELAYED BLK PULSE
95	BLK3	OUT	DELAYED BLK PULSE
96	X-BF	OUT	DELAYED BF PULSE
97	X-PP	OUT	DELAYED PP PULSE
98	X-SP1	OUT	DELAYED SP PULSE
99	X-SP2	OUT	DELAYED SP PULSE
100	X-SP3	OUT	DELAYED SP PULSE
101			
102			
103			
104			
105			

REVERSE SIDE **PRE PROCESS BLOCK DIAGRAM**

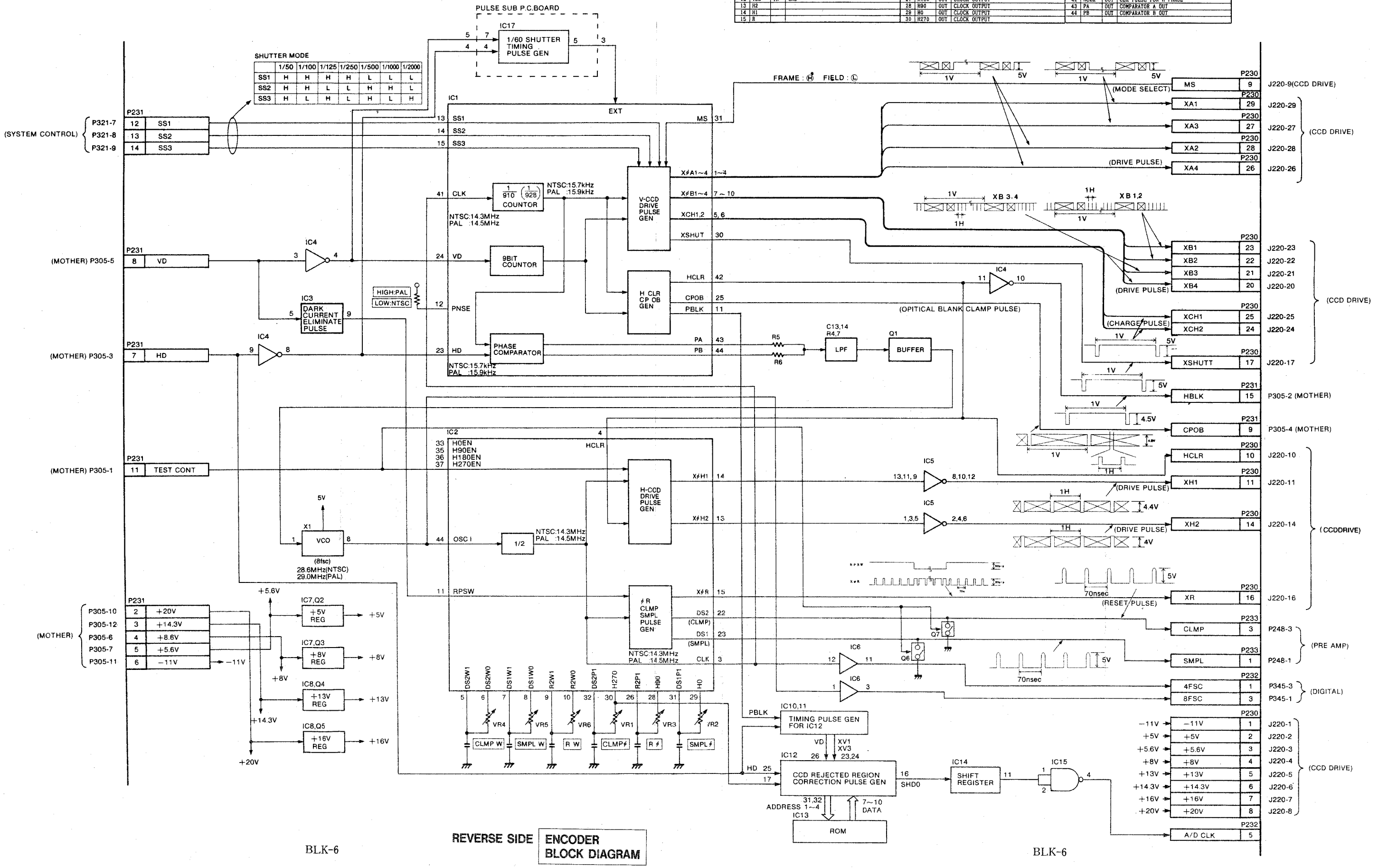
ENCODER BLOCK DIAGRAM


(FROM DIGITAL) P347-3—P309-3— SIT-1 IN (COMPOSITE)
(FROM MOTHER) J303-23— SYNC D (COMPOSITE)
(FROM DIGITAL) P347-5—P309-5—R-Y IN
(FROM MOTHER) J303-30 J301-32 — CP2
(FROM DIGITAL) P347-7—P309-7— B-Y IN
(FROM MOTHER) J303-25—BF IN
(FROM DIGITAL) P347-1—P309-1—Y IN
(FROM MOTHER) J303-22—SYNC E (COMPONENT)
(FROM DIGITAL) P347-9—P309-9—MONI IN
(FROM 79P) P110-9—P312-1—VTR RET IN
11
25
12
19
13
20
10
24
14
29
L1,C1,3
CLOCK NOISE CANCELER
PAL
TP1
NTSC
Q1,2
AMP
VR1
SIT SYNC
DL1
DELAY LINE 93NSEC
1
3
Q3
AMP
VC1,L2
4.43MHz TRAP
PAL ONLY
Q4,5
VIDEO AMP
VR3
VIDEO
PAL
TP2
NTSC
PAL
TP4
SW2
NTSC
VR7
CHROMA
VR4
GAIN
IC1
AMP
3
6
Q42
AMP
Q13,14
AMP
L14,15 C130,117 119
B.P.F
4.43MHz(PAL) 3.58MHz(NTSC)
Q12
BUFFER
37
SIT OUT—P310-5—J2-1 (TO VIDEO OUT) (COMPOSITE)
36
SIT-1 OUT—P312-9—P110-1 (TO 79P) (COMPOSITE)
Q16
AMP
(RY)
+3V
VR18
R-Y
Q15
AMP
L4,C37,38
CLOCK NOISE CANCELER
(NOT USE)
B-Y
NTSC ONLY
VR9
R-Y BAL
Q=0.48(R-Y) +0.41(B-Y)
Q17
AMP
L5,C42~45
L.P.F
2MHz(PAL) 0.5MHz(NTSC)
SW3
Q18
BUFFER
Q19,20
AMP
VR10
Q GAIN
PAL
TP5
NTSC
PAL
IC4
BAL-1
BALANCED MODULATOR
Q21,IC3
CLAMP
+8.2V
VR11
BLK BAL 1
VR12
PAL ONLY
(RY)
34
R-Y OUT—P312-5—P110-3 (TO 79P)
(BY)
33
B-Y OUT—P312-3—P110-7 (TO 79P)
PAL ONLY
PAL BAL-2
IC8
VR20
BALANCED MODULATER
VR19
PAL BAL-1
31
PAL PULSE-JO303-27
Q25
AMP
+3V
VR13
B-Y
NTSC ONLY
VR14
B-Y BAL
Q24
AMP
Q26
AMP
L6,C59,60
CLOCK NOISE CANCELER
(NOT USE)
I=0.78(R-Y) −0.27(B-Y)
L7,C63~66
L.P.F
2MHz(PAL) 1.5MHz(NTSC)
SW4
Q27
BUFFER
JP1(PAL ONLY)
NTSC ONLY
DL2
DELAY LINE
VR22
BURST ϕ
NTSC
TP6
Q28,29
AMP
VR15
I GAIN
IC7
CLAMP
Q30,IC6
VR17
BAL-2
BALANCED MODULATOR
+8.2V
PAL ONLY
VR16
BLK BAL2
JP2 (NTSC ONLY)
L11,C95~97
PHASE SHIFTER
VC2
SC-PHASE
Q37
BUFFER
L12,13 C99
3.58MHz B.P.F
4.43MHz(PAL) 3.58MHz(NTSC)
18
SC IN—J303-26 (FROM MOTHER)
VR21
BURST
Q43
BUFFER
35
Y OUT—P312-7—P110-5 (TO 79P)
IC9(1/2)
COM− −PARTOR
7
5
1.7V
IC10(1/2)
ENC : L MON: H
ENC
MON
CHARACTOR
+3V
Q41
BUFFER
27
MONI OUT—P307-7—P102-9 (TO LEFT SIDE SW)
17
SIG IN (CHARACTOR)—P308-19—P321-11 (FROM SYSCON)
IC9(2/2)
COM− −PARTOR
1
3
2.5V
VF. ENC : L R.G.B : H
23
VF SEL (ENC/MON)—P307-6—P102-8 (FROM LEFT SIDE SW)
Q38
21
VTR CONT—P308-21—P325-7 (FROM SYSCON)
IC10(1/2)
MON : L RET : H
MON
VTR RET
Q40
AMP
26
VF—P313-1—P404-1—J403-1—J7-4 (TO EVF) (VIEW FINDER)
16
VF MARKER-P308-18—P346-12 (FROM DIGITAL)
TP3
Q8,9
AMP
Q10,11
AMP
VR5
Y SYNC
VR6
Y
Q7
BUFFER
PAL
NTSC
PAL
NTSC
PAL
NTSC
TP7
TP8
Q31~33
AMP
Q34~36
MIX AMP
VR17
MON
L10,C79,80
CLOCK NOISE CANCELER
Q39
AMP

PULSE BLOCK DIAGRAM

IC2(MN53003XCU)

PIN	NAME	I/O	DESCRIPTION	PIN	NAME	I/O	DESCRIPTION	PIN	NAME	I/O	DESCRIPTION
1	OSCO	OUT	OSCILATOR OUTPUT	16	CLR	IN	TEST CONTROL	31	MS	IN	MODE SELECT L:FIELD H:FRAME
2	SSV		GND	17	VDD	IN	+5V	32	CHR	IN	READING H:2TIME L:1TIME
3	CLR	OUT	CLOCK OUTPUT	18	SP1	NC	SAMPLING PULSE 1	33	DSHSE	IN	ELEC SHUTTER SELECT
4	HCLR	IN	STOP PULSE FOR H PHASE	19	SP2	NC	SAMPLING PULSE 2	34	NFSW	IN	NORMAL MODE OUT H:OUTPUT L:NO OUTPUT
5	DS2W1	IN	PULSE WIDE ADJUSTMENT 2	20	SP3	NC	SAMPLING PULSE 3	35	TEST4	IN	TEST CONTROL
6	DS2W0	OUT	PULSE WIDE ADJUSTMENT 2	21	SP4	NC	SAMPLING PULSE 4	36	TEST5	IN	TEST CONTROL
7	DS1W1	IN	PULSE WIDE ADJUSTMENT 1	22	DS2	IN	PULSE WIDE ADJUSTMENT	37	TEST6	IN	TEST CONTROL
8	DS1W0	OUT	PULSE WIDE ADJUSTMENT 1	23	DS1	IN	PULSE WIDE ADJUSTMENT	38	TECK	IN	TEST CLOCK
9	R2W1	IN	PULSE WIDE ADJUSTMENT	24	VDD	IN	+5V	39	VSS		GND
10	R2W0	OUT	PULSE WIDE ADJUSTMENT	25	RW1	IN	+5V	40	VDD	IN	+5V
11	RPSW	IN		26	R2P1			41	CLK	IN	CLOCK
12	VSS	IN	GND	27	H180	OUT	CLOCK OUTPUT	42	HCLR	OUT	CLR PULSE FOR H PHASE
13	H2			28	H90	OUT	CLOCK OUTPUT	43	PA	OUT	COMPARATOR A OUT
14	H1			29	H0	OUT	CLOCK OUTPUT	44	PB	OUT	COMPARATOR B OUT
15	R			30	H270	OUT	CLOCK OUTPUT				

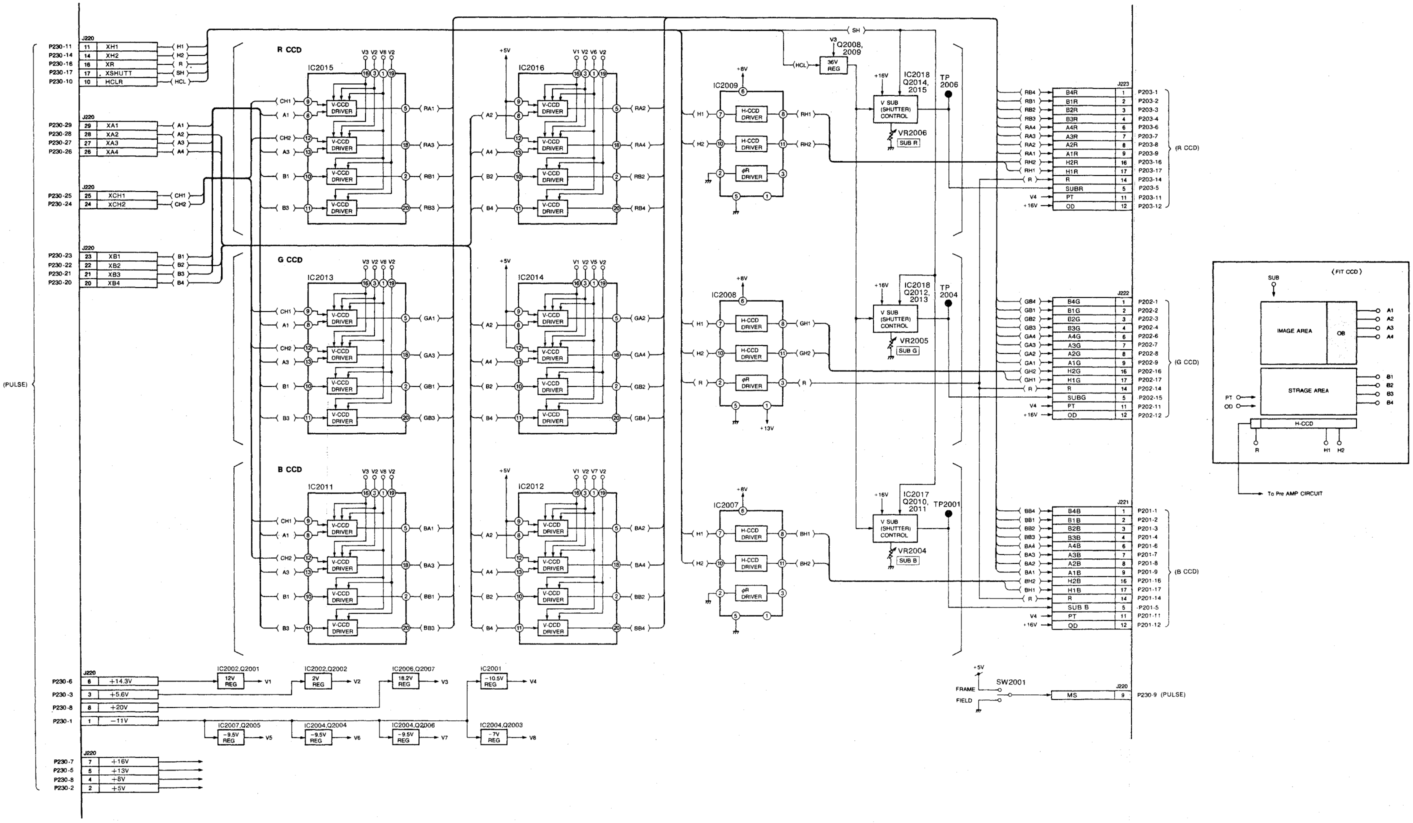

PULSE SUB P.C.BOARD
IC17
1/60 SHUTTER TIMING PULSE GEN
EXT
IC1
SS1
SS2
SS3
MS
X∮A1~4
X∮B1~4
XCH1,2
XSHUT
V-CCD DRIVE PULSE GEN
CLK
1/910 (1/928) COUNTOR
NTSC:15.7kHz PAL :15.9kHz
NTSC:14.3MHz PAL :14.5MHz
VD
9BIT COUNTOR
HIGH:PAL
LOW:NTSC
PNSE
H CLR CP OB GEN
HCLR
CPOB
PBLK
PHASE COMPARATOR
PA
PB
HD
IC3
DARK CURRENT ELIMINATE PULSE
IC4
R5
R6
C13,14 R4.7
LPF
Q1
BUFFER
(OPTICAL BLANK CLAMP PULSE)
SHUTTER MODE
P231
SS1
SS2
SS3
(SYSTEM CONTROL)
P321-7
P321-8
P321-9
(MOTHER) P305-5
(MOTHER) P305-3
(MOTHER) P305-1
TEST CONT
IC2
H0EN
H90EN
H180EN
H270EN
H-CCD DRIVE PULSE GEN
X∮H1
X∮H2
OSC I
1/2
NTSC:14.3MHz PAL :14.5MHz
X1
VCO
(8fsc)
28.6MHz(NTSC)
29.0MHz(PAL)
5V
RPSW
∮R CLMP SMPL PULSE GEN
X∮R
DS2
(CLMP)
DS1
(SMPL)
CLK
NTSC:14.3MHz PAL :14.5MHz
DS2W1
DS2W0
DS1W1
DS1W0
R2W1
R2W0
DS2P1
H270
R2P1
H90
DS1P1
H0
VR4
VR5
VR6
VR1
VR3
VR2
CLMP W
SMPL W
R W
CLMP∮
R∮
SMPL∮
(MOTHER)
P305-10
P305-12
P305-6
P305-7
P305-11
+20V
+14.3V
+8.6V
+5.6V
−11V
IC7,Q2
+5V REG
IC7,Q3
+8V REG
IC8,Q4
+13V REG
IC8,Q5
+16V REG
+5V
+8V
+13V
+16V
+14.3V
+20V
IC5
IC6
Q6
Q7
IC10,11
TIMING PULSE GEN FOR IC12
XV1
XV3
IC12
CCD REJECTED REGION CORRECTION PULSE GEN
SHD0
ADDRESS 1~4
IC13
ROM
7~10 DATA
IC14
SHIFT REGISTER
IC15
FRAME : Ⓗ FIELD : Ⓛ
(MODE SELECT)
(DRIVE PULSE)
XB 3,4
XB 1,2
1V
1H
5V
4.5V
4.4V
4V
(CHARGE PULSE)
70nsec
(RESET PULSE)
P230
MS
XA1
XA3
XA2
XA4
XB1
XB2
XB3
XB4
XCH1
XCH2
XSHUTT
HBLK
CPOB
HCLR
XH1
XH2
XR
P233
CLMP
SMPL
P232
4FSC
8FSC
A/D CLK
J220-9(CCD DRIVE)
J220-29
J220-27
J220-28
J220-26
(CCD DRIVE)
J220-23
J220-22
J220-21
J220-20
J220-25
J220-24
J220-17
P305-2 (MOTHER)
P305-4 (MOTHER)
J220-10
J220-11
J220-14
(CCDDRIVE)
J220-16
P248-3
P248-1
(PRE AMP)
P345-3
P345-1
(DIGITAL)
J220-1
J220-2
J220-3
J220-4
J220-5
J220-6
J220-7
J220-8

SHUTTER MODE

	1/50	1/100	1/125	1/250	1/500	1/1000	1/2000
SS1	H	H	H	H	L	L	L
SS2	H	H	L	L	H	H	L
SS3	H	L	H	L	H	L	H

REVERSE SIDE ENCODER
BLOCK DIAGRAM

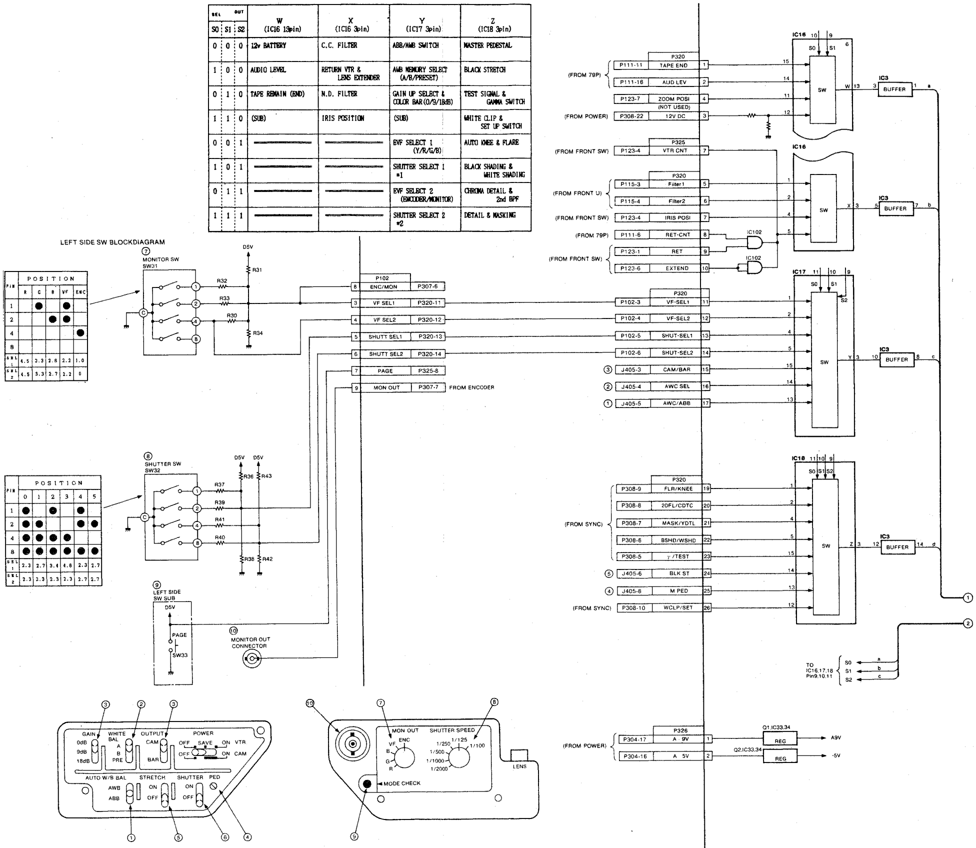
CCD DRIVE & CCD BLOCK DIAGRAM



J220
P230-11 11 XH1 H1
P230-14 14 XH2 H2
P230-16 16 XR R
P230-17 17 XSHUTT SH
P230-10 10 HCLR HCL
P230-29 29 XA1 A1
P230-28 28 XA2 A2
P230-27 27 XA3 A3
P230-26 26 XA4 A4
P230-25 25 XCH1 CH1
P230-24 24 XCH2 CH2
P230-23 23 XB1 B1
P230-22 22 XB2 B2
P230-21 21 XB3 B3
P230-20 20 XB4 B4
(PULSE)
R CCD
G CCD
B CCD
IC2015
IC2016
IC2013
IC2014
IC2011
IC2012
V3 V2 V8 V2
V1 V2 V6 V2
V1 V2 V5 V2
V1 V2 V7 V2
+5V
V-CCD DRIVER
CH1
CH2
A1
A2
A3
A4
B1
B2
B3
B4
RA1 RA2 RA3 RA4 RB1 RB2 RB3 RB4
GA1 GA2 GA3 GA4 GB1 GB2 GB3 GB4
BA1 BA2 BA3 BA4 BB1 BB2 BB3 BB4
SH
V3
Q2008, 2009
36V REG
HCL
+8V
IC2009
IC2008
IC2007
H-CCD DRIVER
φR DRIVER
H1
H2
R
RH1 RH2
GH1 GH2
BH1 BH2
+13V
+16V
IC2018 Q2014, 2015
IC2018 Q2012, 2013
IC2017 Q2010, 2011
TP 2006
TP 2004
TP2001
V SUB (SHUTTER) CONTROL
VR2006 SUB R
VR2005 SUB G
VR2004 SUB B
J223
B4R 1 P203-1
B1R 2 P203-2
B2R 3 P203-3
B3R 4 P203-4
A4R 6 P203-6
A3R 7 P203-7
A2R 8 P203-8
A1R 9 P203-9
H2R 16 P203-16
H1R 17 P203-17
R 14 P203-14
SUBR 5 P203-5
PT 11 P203-11
OD 12 P203-12
(R CCD)
J222
B4G 1 P202-1
B1G 2 P202-2
B2G 3 P202-3
B3G 4 P202-4
A4G 6 P202-6
A3G 7 P202-7
A2G 8 P202-8
A1G 9 P202-9
H2G 16 P202-16
H1G 17 P202-17
R 14 P202-14
SUBG 5 P202-15
PT 11 P202-11
OD 12 P202-12
(G CCD)
J221
B4B 1 P201-1
B1B 2 P201-2
B2B 3 P201-3
B3B 4 P201-4
A4B 6 P201-6
A3B 7 P201-7
A2B 8 P201-8
A1B 9 P201-9
H2B 16 P201-16
H1B 17 P201-17
R 14 P201-14
SUB B 5 P201-5
PT 11 P201-11
OD 12 P201-12
(B CCD)
V4
+16V
(FIT CCD)
SUB
IMAGE AREA
OB
STRAGE AREA
H-CCD
PT
OD
A1 A2 A3 A4
B1 B2 B3 B4
R H1 H2
To Pre AMP CIRCUIT
+5V
SW2001
FRAME
FIELD
J220
MS 9 P230-9 (PULSE)
P230-6 6 +14.3V
P230-3 3 +5.6V
P230-8 8 +20V
P230-1 1 −11V
IC2002,Q2001 12V REG V1
IC2002,Q2002 2V REG V2
IC2006,Q2007 18.2V REG V3
IC2001 −10.5V REG V4
IC2007,Q2005 −9.5V REG V5
IC2004,Q2004 −9.5V REG V6
IC2004,Q2006 −9.5V REG V7
IC2004,Q2003 −7V REG V8
P230-7 7 +16V
P230-5 5 +13V
P230-8 4 +8V
P230-2 2 +5V

SYSTEM CONTROL BLOCK DIAGRAM 1/2

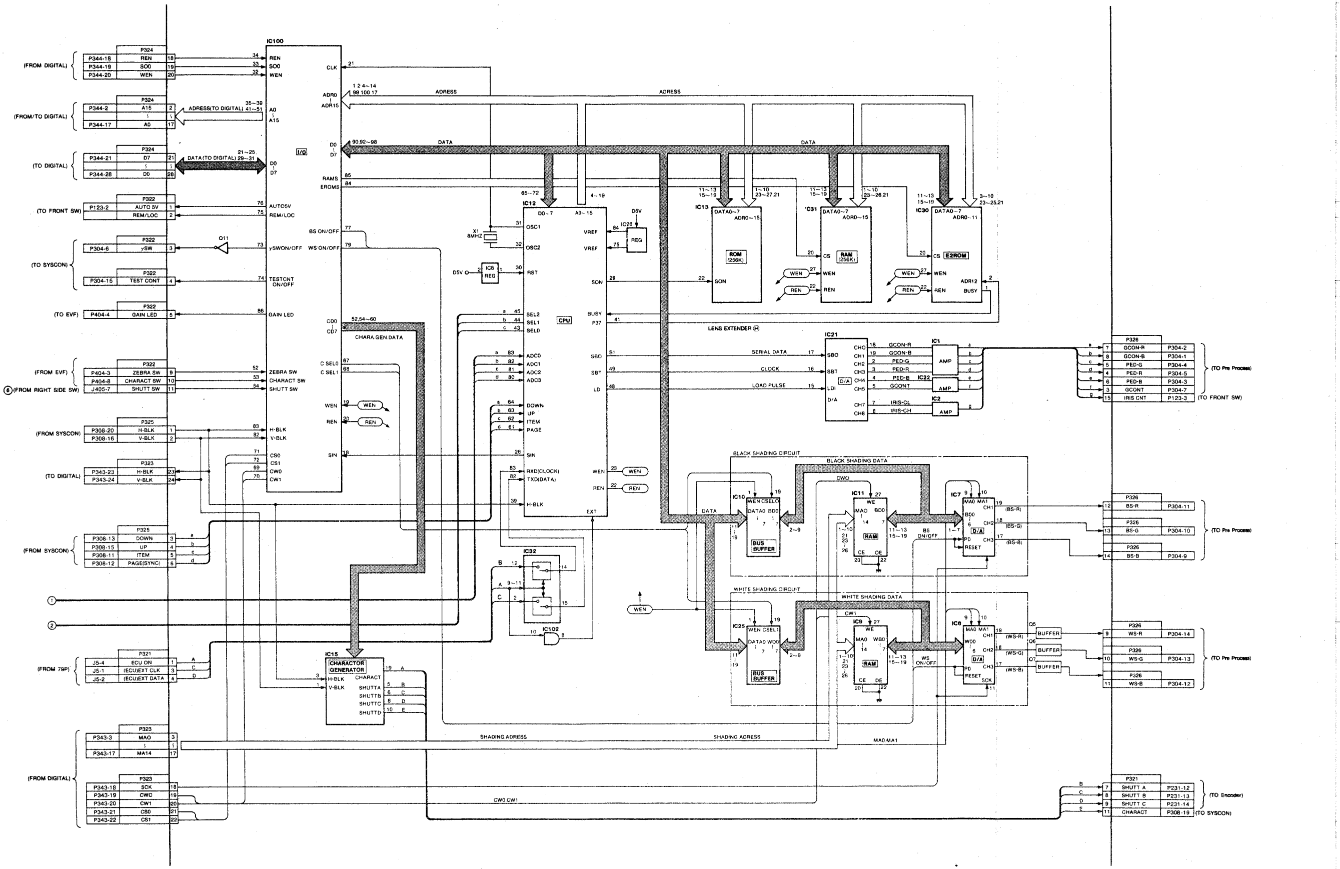
SEL		OUT	W	X	Y	Z
S0	S1	S2	(IC16 13pin)	(IC16 3pin)	(IC17 3pin)	(IC18 3pin)
0	0	0	12v BATTERY	C.C. FILTER	ABB/AWB SWITCH	MASTER PEDESTAL
1	0	0	AUDIO LEVEL	RETURN VTR & LENS EXTENDER	AWB MEMORY SELECT (A/B/PRESET)	BLACK STRETCH
0	1	0	TAPE REMAIN (END)	N.D. FILTER	GAIN UP SELECT & COLOR BAR (0/9/18dB)	TEST SIGNAL & GAMMA SWITCH
1	1	0	(SUB)	IRIS POSITION	(SUB)	WHITE CLIP & SET UP SWITCH
0	0	1	—	—	EVF SELECT 1 (Y/R/G/B)	AUTO KNEE & FLARE
1	0	1	—	—	SHUTTER SELECT 1 *1	BLACK SHADING & WHITE SHADING
0	1	1	—	—	EVF SELECT 2 (ENCODER/MONITOR)	CHROMA DETAIL & 2nd BPF
1	1	1	—	—	SHUTTER SELECT 2 *2	DETAIL & MASKING


LEFT SIDE SW BLOCKDIAGRAM
⑦ MONITOR SW SW31
D5V
R31
R32
R33
R30
R34
C
⑧ SHUTTER SW SW32
R36
R43
R37
R39
R41
R40
R38
R42
⑨ LEFT SIDE SW SUB
PAGE
SW33
⑩ MONITOR OUT CONNECTOR
P102
8 ENC/MON P307-6
3 VF SEL1 P320-11
4 VF SEL2 P320-12
5 SHUTT SEL1 P320-13
6 SHUTT SEL2 P320-14
7 PAGE P325-8
9 MON OUT P307-7 FROM ENCODER
P320
(FROM 79P) P111-11 TAPE END 1
P111-16 AUD LEV 2
P123-7 ZOOM POSI 4
(NOT USED)
(FROM POWER) P308-22 12V DC 3
P325
(FROM FRONT SW) P123-4 VTR CNT 7
(FROM FRONT U) P115-3 Filter1 5
P115-4 Filter2 6
(FROM FRONT SW) P123-4 IRIS POSI 7
(FROM 79P) P111-6 RET-CNT 8
(FROM FRONT SW) P123-1 RET 9
P123-6 EXTEND 10
IC102
IC16
S0 S1
SW
W 13
IC3
BUFFER
a b c d
X 3
IC17
S2
P102-3 VF-SEL1 11
P102-4 VF-SEL2 12
P102-5 SHUT-SEL1 13
P102-6 SHUT-SEL2 14
③ J405-3 CAM/BAR 15
② J405-4 AWC SEL 16
① J405-5 AWC/ABB 17
Y 3
IC18
(FROM SYNC) P308-9 FLR/KNEE 19
P308-8 20FL/CDTC 20
P308-7 MASK/YDTL 21
P308-6 BSHD/WSHD 22
P308-5 γ/TEST 23
⑤ J405-6 BLK ST 24
④ J405-8 M PED 25
(FROM SYNC) P308-10 WCLP/SET 26
Z 3
①
②
TO IC16,17,18 Pin9,10,11
S0 S1 S2
P326
(FROM POWER) P304-17 A 9V 1
P304-16 A 5V 2
Q1,IC33,34 REG A9V
Q2,IC33,34 REG -5V
GAIN 0dB 9dB 18dB
WHITE BAL A B PRE
OUTPUT CAM BAR
POWER OFF SAVE ON VTR
OFF ON CAM
AUTO W/B BAL AWB ABB
STRETCH ON OFF
SHUTTER ON OFF
PED
MON OUT VF ENC B G R
SHUTTER SPEED 1/250 1/125 1/100 1/500 1/1000 1/2000
MODE CHECK
LENS
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

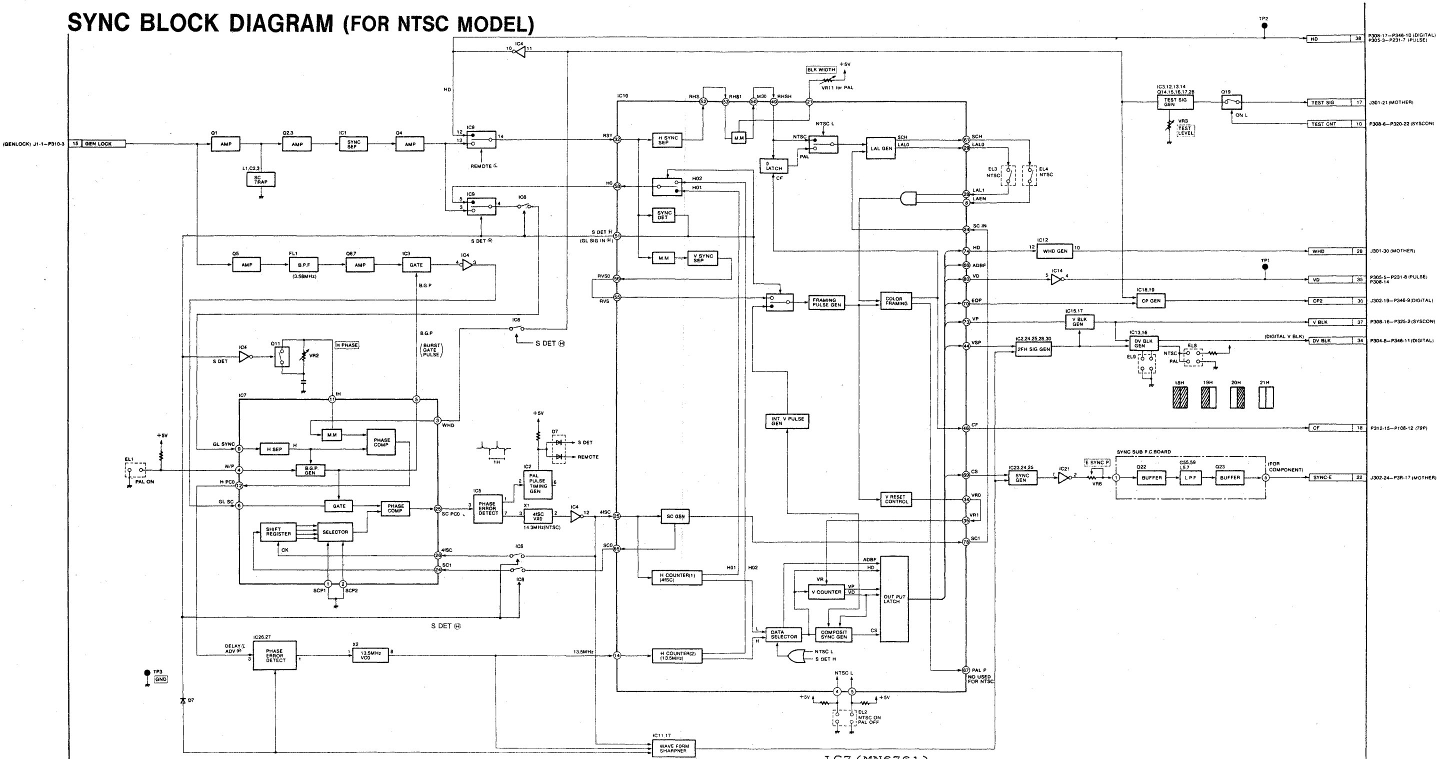
PIN	POSITION R	G	B	VF	ENC
1		●		●	
2			●	●	
4					●
8					
SEL 1	4.5	3.3	2.8	2.2	1.0
SEL 2	4.5	3.3	2.7	2.2	0

PIN	POSITION 0	1	2	3	4	5
1	●		●		●	
2	●	●			●	●
4	●	●	●	●		
8	●	●	●	●	●	●
SEL 1	2.3	2.7	3.4	4.6	2.3	2.7
SEL 2	2.3	2.3	2.3	2.3	2.7	2.7

SYSTEM CONTROL BLOCK DIAGRAM 2/2


IC100
I/O
IC12
CPU
IC13
ROM (256K)
IC31
RAM (256K)
IC30
E2ROM
IC21
D/A
IC1
IC2
IC22
AMP
IC26
REG
IC8
REG
X1 8MHZ
IC32
IC102
IC15
CHARACTOR GENERATOR
IC10
IC11
IC7
IC25
IC9
IC6
BUS BUFFER
RAM
D/A
BUFFER
BLACK SHADING CIRCUIT
BLACK SHADING DATA
WHITE SHADING CIRCUIT
WHITE SHADING DATA
SHADING ADRESS
ADRESS
DATA
CHARA GEN DATA
LENS EXTENDER Ⓡ
SERIAL DATA
CLOCK
LOAD PULSE
CW0
CW1
CW0 CW1
MA0 MA1
WEN
REN
(FROM DIGITAL)
(FROM/TO DIGITAL)
(TO DIGITAL)
(TO FRONT SW)
(TO SYSCON)
(TO EVF)
(FROM EVF)
ⓑ(FROM RIGHT SIDE SW)
(FROM SYSCON)
(FROM 79P)
(TO Pre Process)
(TO Encoder)
P324
P322
P325
P323
P321
P326
P344-18 REN
P344-19 SO0
P344-20 WEN
P344-2 A15
P344-17 A0
P344-21 D7
P344-28 D0
P123-2 AUTO 5V
REM/LOC
P304-6 γSW
P304-15 TEST CONT
P404-4 GAIN LED
P404-3 ZEBRA SW
P404-8 CHARACT SW
J405-7 SHUTT SW
P308-20 H-BLK
P308-16 V-BLK
P343-23 H-BLK
P343-24 V-BLK
P308-13 DOWN
P308-15 UP
P308-11 ITEM
P308-12 PAGE(SYNC)
J5-4 ECU ON
J5-1 (ECU)EXT CLK
J5-2 (ECU)EXT DATA
P343-3 MA0
P343-17 MA14
P343-18 SCK
P343-19 CW0
P343-20 CW1
P343-21 CS0
P343-22 CS1
GCON-R P304-2
GCON-B P304-1
PED-G P304-4
PED-R P304-5
PED-B P304-3
GCONT P304-7
IRIS CNT P123-3
BS-R P304-11
BS-G P304-10
BS-B P304-9
WS-R P304-14
WS-G P304-13
WS-B P304-12
SHUTT A P231-12
SHUTT B P231-13
SHUTT C P231-14
CHARACT P308-19
Q11
Q5
Q6
Q7
D5V
①
②

SYNC BLOCK DIAGRAM (FOR NTSC MODEL)

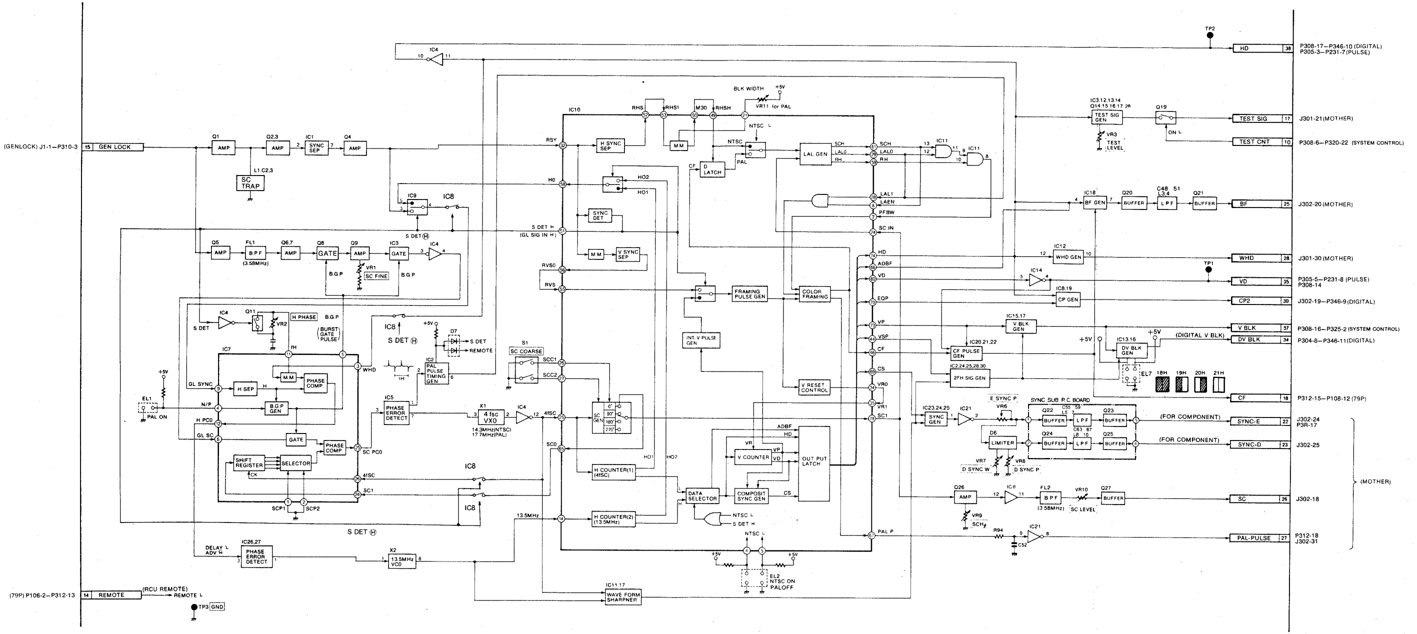

(GENLOCK) J1-1—P310-3
15 GEN LOCK
Q1 AMP
Q2,3 AMP
L1,C2,3 SC TRAP
IC1 SYNC SEP
Q4 AMP
IC4 10 11
HD
IC9 12 13 14
REMOTE Ⓛ
IC9 5 3 4
IC8
S DET Ⓗ
Q5 AMP
FL1 B.P.F (3.58MHz)
Q6,7 AMP
IC3 GATE
IC4 4 3
B.G.P
IC8
S DET Ⓗ
B.G.P (BURST GATE PULSE)
IC4
S DET
Q11
VR2
H PHASE
IC7
fH
WHD
M.M
PHASE COMP
GL SYNC
H SEP
H
B.G.P. GEN
N/P
H PCO
GL SC
GATE
PHASE COMP
SC PCO
SHIFT REGISTER
SELECTOR
CK
4fSC
SC1
SCP1
SCP2
IC8
IC8
S DET Ⓗ
+5V
EL1
PAL ON
+5V
D7
S DET
REMOTE
1H
IC2 PAL PULSE TIMING GEN
IC5 PHASE ERROR DETECT
X1 4fSC VXO 14.3MHz(NTSC)
IC4 12
4fSC
DELAY Ⓛ ADV Ⓗ
IC26,27 PHASE ERROR DETECT
X2 13.5MHz VCO
13.5MHz
TP3 GND
D7
IC10
RSY
H SYNC SEP
HO
H02
H01
SYNC DET
S DET Ⓗ (GL SIG IN Ⓗ)
M.M
V SYNC SEP
RVSO
RVS
RHS
RHS1
M30
RHSH
M.M
BLK WIDTH
+5V
VR11 for PAL
NTSC L
NTSC
PAL
D LATCH
CF
LAL GEN
SCH
LALO
EL3 NTSC
EL4 NTSC
LAL1
LAEN
SC IN
FRAMING PULSE GEN
COLOR FRAMING
INT. V PULSE GEN
V RESET CONTROL
SC GEN
SCO
H COUNTER(1) (4fSC)
H COUNTER(2) (13.5MHz)
ADBF
HD
VR
V COUNTER
VP
VD
OUT PUT LATCH
DATA SELECTOR
L
H
COMPOSIT SYNC GEN
CS
NTSC L
S DET H
NTSC L
+5V
EL2 NTSC ON PAL OFF
IC11,17 WAVE FORM SHARPNER
HD
ADBF
VD
EQP
VP
VSP
CF
CS
VR0
VR1
SC1
PAL P NO USED FOR NTSC
IC12 WHD GEN
IC14
IC3,12,13,14 Q14,15,16,17,28 TEST SIG GEN
VR3 TEST LEVEL
Q19
ON L
IC18,19 CP GEN
IC15,17 V BLK GEN
IC13,16 DV BLK GEN
IC2,24,25,28,30 2FH SIG GEN
EL9
EL8
NTSC
PAL
(DIGITAL V BLK)
18H
19H
20H
21H
TP2
TP1
IC23,24,25 SYNC GEN
IC21
E SYNC P
VR6
SYNC SUB P.C.BOARD
Q22 BUFFER
C55,59 L5,7 L.P.F
Q23 BUFFER
(FOR COMPONENT)
HD 38 P308-17—P346-10 (DIGITAL) P305-3—P231-7 (PULSE)
TEST SIG 17 J301-21 (MOTHER)
TEST CNT 10 P308-6—P320-22 (SYSCON)
WHD 28 J301-30 (MOTHER)
VD 35 P305-5—P231-8 (PULSE) P308-14
CP2 30 J302-19—P346-9 (DIGITAL)
V BLK 37 P308-16—P325-2 (SYSCON)
DV BLK 34 P304-8—P346-11 (DIGITAL)
CF 18 P312-15—P108-12 (79P)
SYNC-E 22 J302-24—P3R-17 (MOTHER)

IC7 (MN6761)

PIN	NAME	I/O	DESCRIPTION	PIN	NAME	I/O	DESCRIPTION
1	SCPSW1	IN	SUB CARRIER PHASE SELECT	16	VR	OUT	VERTICAL RESET PULSE
2	SCPSW2	IN	SUB CARRIER PHASE SELECT	17	LSW	IN	LINE SWITCH
3	WHD	IN	COMP SYNC	18	LSWCONT	OUT	LINE SWITCH CONTROL
4	N/P	IN	NTSC/PAL SELECT (PAL LOW)	19	EXT/INT	OUT	EXT/INT SELECT
5	BGP	OUT	BURST GATE PULSE	20	H BLK	OUT	HORIZONTAL BLANKING
6	GLBSC	IN	REF SUB CARRIER	21	TEST1	IN	TEST CONTROL
7	VSS1		GND	22	VSS		GND
8	VDD	IN	+5V	23	VDD	IN	+5V
9	GLSYNC	IN	REF COMP SYNC	24	SC1	IN	SUB CARRIER
10	TEST2	IN	TEST CONTROL	25	SCPCO	OUT	SUB CARRIER PHASE COMPARATOR
11	F HP	IN	MONOSTABLE MULTIVIBRATION	26	4FSCOSCI	IN	4FSC 14.3MHz(NTSC),17.7MHz(PAL)
12	HPCO	OUT	HORIZONTAL PHASE COMPARISON	27	4FSCOSCO	OUT	4FSC 14.3MHz(NTSC),17.7MHz(PAL)
13	OSCI	IN	14.3MHZ(NTSC) 14.4MHZ(PAL)	28	4FSC	OUT	4FSC CLOCK
14	OSCO	OUT	14.3MNz(NTSC) 14.4MHz(PAL)				
15	XFH	OUT	FH CLOCK				

REVERSE SIDE SYSTEM CONTROL BLOCK DIAGRAM

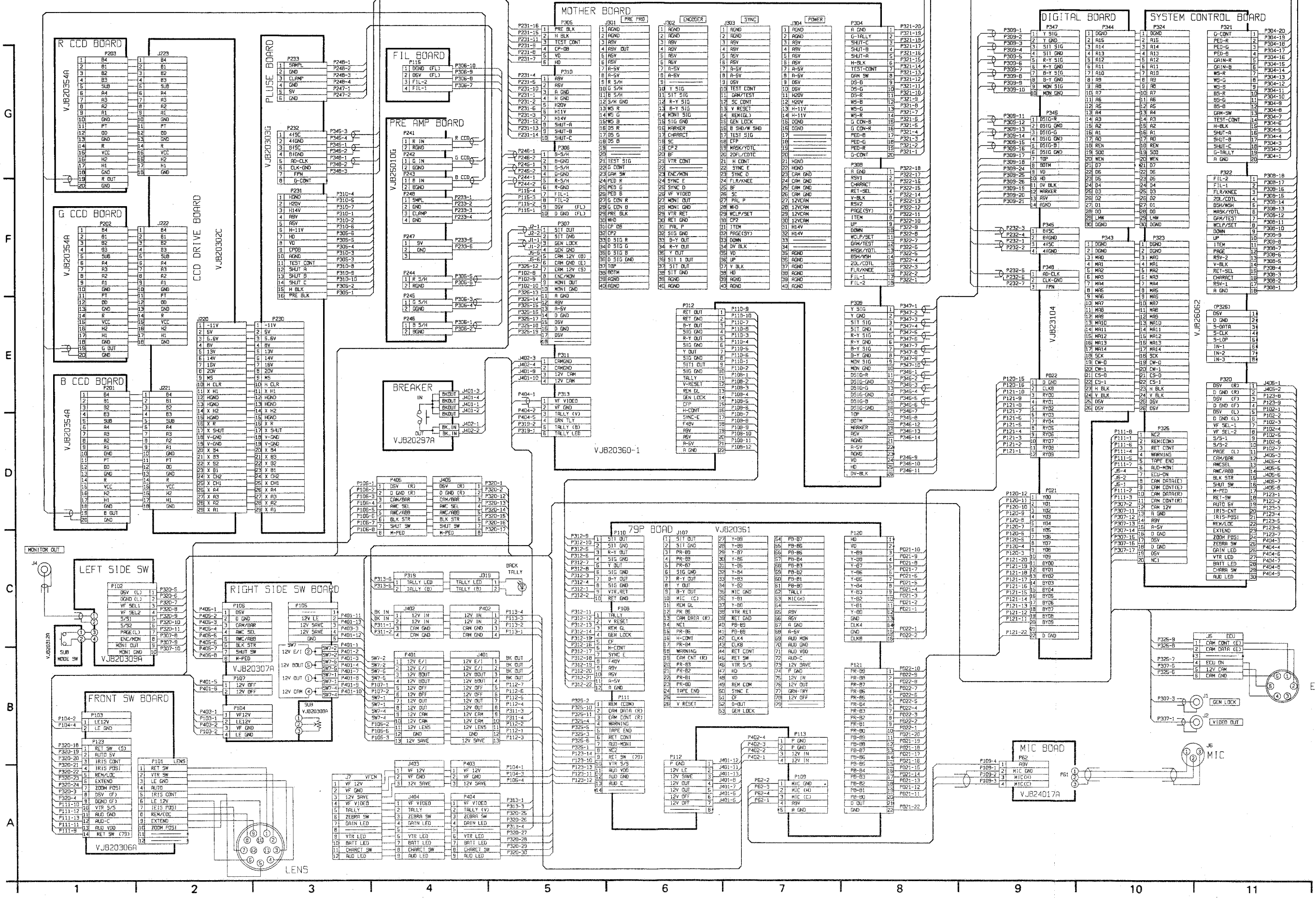
SYNC BLOCK DIAGRAM (FOR PAL MODEL)


(GENLOCK) J1-1—P310-3
15 GEN LOCK
Q1 AMP
Q2,3 AMP
IC1 SYNC SEP
Q4 AMP
L1,C2,3
SC TRAP
Q5 AMP
FL1 B P F
(3.58MHz)
Q6,7 AMP
Q8 GATE
Q9 AMP
IC3 GATE
B.G.P
VR1
SC FINE
IC4
IC9
IC8
S DET Ⓗ
IC4
Q11
VR2
H PHASE
B.G.P
(BURST GATE PULSE)
S DET
IC7
fH
GL SYNC
H SEP
M.M
PHASE COMP
B.G.P GEN
N/P
H PC0
GL SC
GATE
PHASE COMP
SHIFT REGISTER
SELECTOR
CK
SC PC0
4fSC
SC1
SCP1
SCP2
+5V
EL1
PAL ON
WHD
IC2 PAL PULSE TIMING GEN
1H
IC5 PHASE ERROR DETECT
X1 4 fsc VXO
14.3MHz(NTSC) 17.7MHz(PAL)
IC4
4fSC
D7
S DET
REMOTE
S1
SC COARSE
SCC1
SCC2
SC GEN
0°
90°
180°
270°
13.5MHz
IC26,27 PHASE ERROR DETECT
DELAY L ADV H
X2 13.5MHz VCO
(RCU REMOTE)
REMOTE L
(79P) P106-2—P312-13
14 REMOTE
TP3 GND
IC4
IC10
RSY
H SYNC SEP
H0
HO2
HO1
SYNC DET
S DET H (GL SIG IN H)
M.M
V SYNC SEP
RVS0
RVS
SCO
H COUNTER(1) (4fSC)
H COUNTER(2) (13.5MHz)
RHS
RHS1
M30
RHSH
BLK WIDTH
+5V
VR11 for PAL
NTSC L
NTSC
PAL
CF
D LATCH
M M
LAL GEN
SCH
LALO
RH
IC11
LAL1
LAEN
PFBW
SC IN
HD
ADBF
VD
EOP
VP
VSP
CF
CS
VR0
VR1
SC1
PAL P
FRAMING PULSE GEN
INT. V PULSE GEN
COLOR FRAMING
V RESET CONTROL
ADBF
HD
VR
V COUNTER
VP
VD
OUT PUT LATCH
DATA SELECTOR
COMPOSIT SYNC GEN
CS
NTSC L
S DET H
NTSC L
+5V
EL2
NTSC ON
PALOFF
IC11,17
WAVE FORM SHARPNER
TP2
HD 38
P308-17—P346-10 (DIGITAL)
P305-3—P231-7 (PULSE)
IC3,12,13,14
Q14,15,16,17,28
TEST SIG GEN
VR3
TEST LEVEL
Q19
ON L
TEST SIG 17
J301-21 (MOTHER)
TEST CNT 10
P308-6—P320-22 (SYSTEM CONTROL)
IC18 BF GEN
Q20 BUFFER
C48 51 L3,4 L P F
Q21 BUFFER
BF 25
J302-20 (MOTHER)
IC12 WHD GEN
WHD 28
J301-30 (MOTHER)
TP1
IC14
VD 35
P305-5—P231-8 (PULSE)
P308-14
IC8,19 CP GEN
CP2 30
J302-19—P346-9 (DIGITAL)
IC15,17 V BLK GEN
V BLK 37
P308-16—P325-2 (SYSTEM CONTROL)
IC20,21,22
CF PULSE GEN
IC2,24,25,28,30
2FH SIG GEN
+5V
IC13,16 DV BLK GEN
(DIGITAL V BLK)
DV BLK 34
P304-8—P346-11 (DIGITAL)
EL7
18H
19H
20H
21H
CF 18
P312-15—P108-12 (79P)
IC23,24,25
SYNC GEN
IC21
E SYNC P
VR6
SYNC SUB P.C BOARD
Q22 BUFFER
C55 59 L5 7
L P F
Q23 BUFFER
(FOR COMPONENT)
SYNC-E 22
J302-24
P3R-17
D6 LIMITER
Q24 BUFFER
C63 67 L8 10
L P F
Q25 BUFFER
(FOR COMPONENT)
SYNC-D 23
J302-25
VR7
D SYNC W
VR8
D SYNC P
(MOTHER)
Q26 AMP
IC8
FL2 B P F
(3.58MHz)
VR10
SC LEVEL
Q27 BUFFER
VR9
SCH
SC 26
J302-18
R94
C52
IC21
PAL-PULSE 27
P312-18
J302-31

IC7 (MN6761)

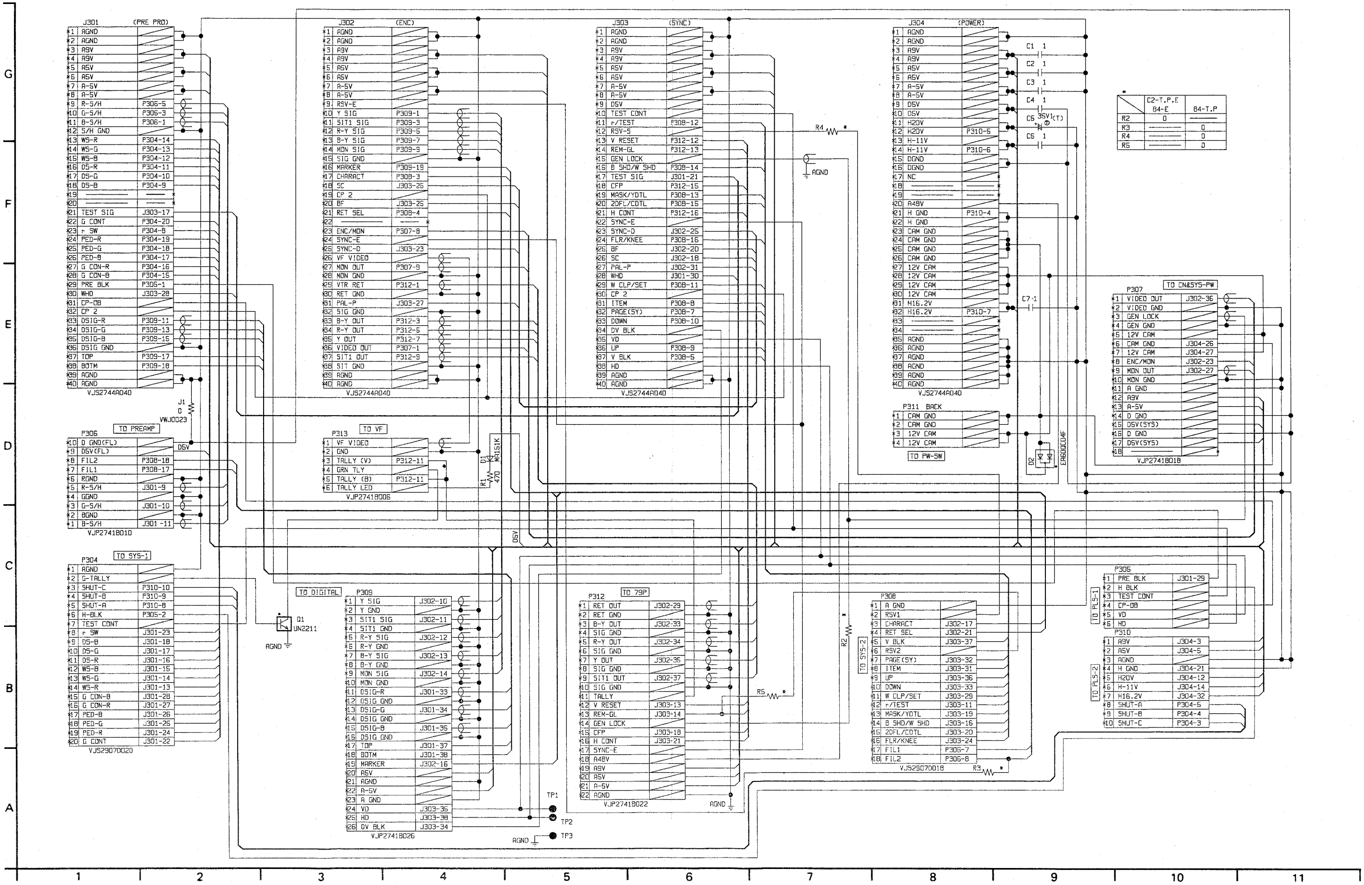
PIN	NAME	I/O	DESCRIPTION	PIN	NAME	I/O	DESCRIPTION
1	SCPSW1	IN	SUB CARRIER PHASE SELECT	16	VR	OUT	VERTICAL RESET PULSE
2	SCPSW2	IN	SUB CARRIER PHASE SELECT	17	LSW	IN	LINE SWITCH
3	WHD	IN	COMP SYNC	18	LSWCONT	OUT	LINE SWITCH CONTROL
4	N/P	IN	NTSC/PAL SELECT (PAL LOW)	19	EXT/INT	OUT	EXT/INT SELECT
5	BGP	OUT	BURST GATE PULSE	20	H BLK	OUT	HORIZONTAL BLANKING
6	GLBSC	IN	REF SUB CARRIER	21	TEST1	IN	TEST CONTROL
7	VSS1		GND	22	VSS		GND
8	VDD	IN	+5V	23	VDD	IN	+5V
9	GLSYNC	IN	REF COMP SYNC	24	SC1	IN	SUB CARRIER
10	TEST2	IN	TEST CONTROL	25	SCPCO	OUT	SUB CARRIER PHASE COMPARATOR
11	F HP	IN	MONOSTABLE MULTIVIBRATION	26	4FSCOSCI	IN	4FSC 14.3MHz(NTSC), 17.7MHz(PAL)
12	HPCO	OUT	HORIZONTAL PHASE COMPARISON	27	4FSCOSCO	OUT	4FSC 14.3MHz(NTSC), 17.7MHz(PAL)
13	OSCI	IN	14.3MHZ(NTSC) 14.4MHZ(PAL)	28	4FSC	OUT	4FSC CLOCK
14	OSCO	OUT	14.3MNz(NTSC) 14.4MHz(PAL)				
15	XFH	OUT	FH CLOCK				

INTERCONNECTION



R CCD BOARD
VJB20354A
G CCD BOARD
VJB20354A
B CCD BOARD
VJB20354A
CCD DRIVE BOARD
VJB20302C
PLUSE BOARD
VJB20303G
FIL BOARD
PRE AMP BOARD
VJB25010G
BREAKER
VJB20297A
MOTHER BOARD
VJB20360-1
DIGITAL BOARD
VJB23104
SYSTEM CONTROL BOARD
VJB25062
MONITOR OUT
LEFT SIDE SW
VJB20309A
SUB MODE SW
VJB20312A
RIGHT SIDE SW BOARD
VJB20307A
SUB
VJB20308A
FRONT SW BOARD
VJB20306A
LENS
BACK TALLY
79P BOARD
VJB20351
MIC BOAD
VJB24017A
MIC
ECU
GEN LOCK
VIDEO OUT
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

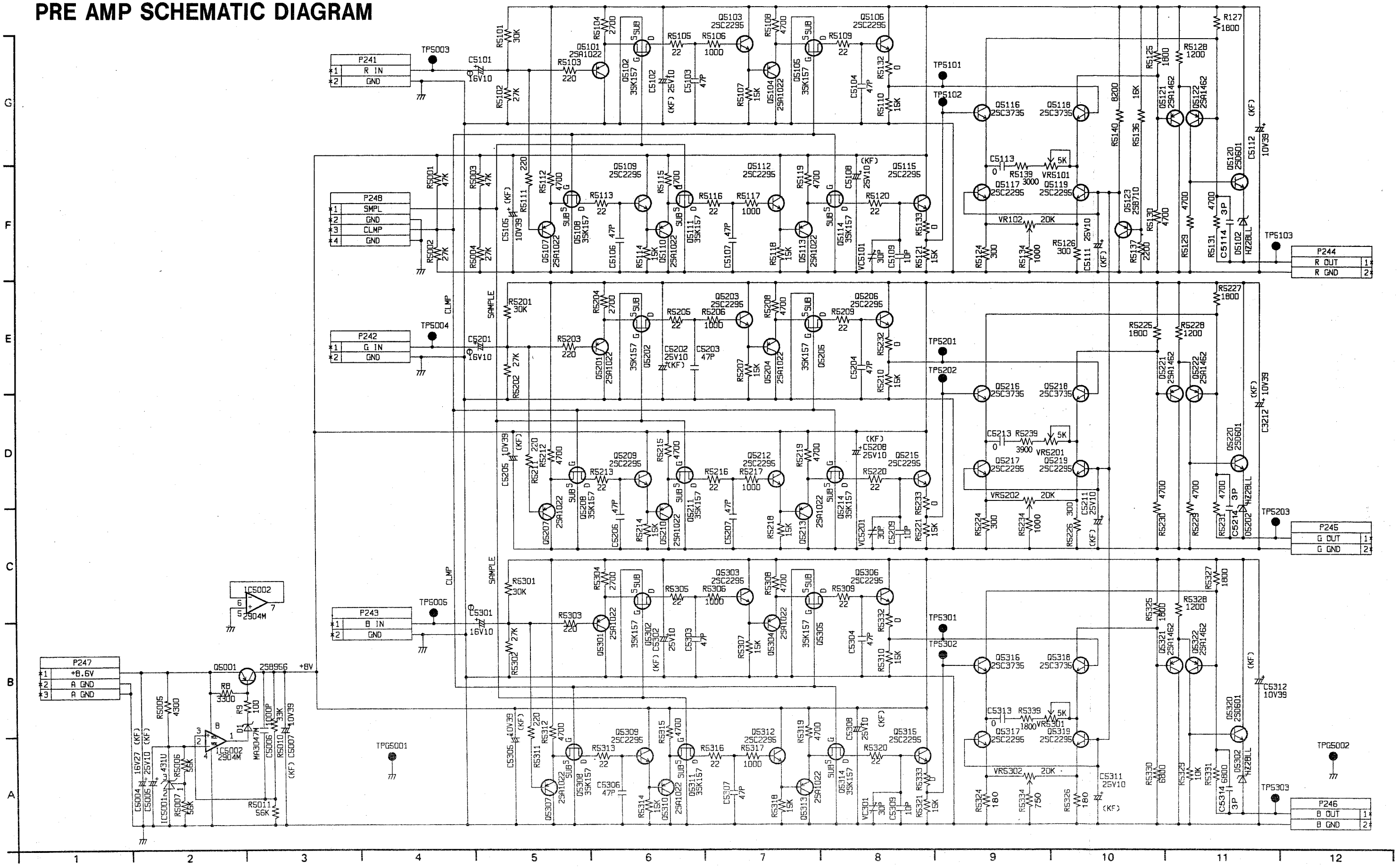
MOTHER SCHEMATIC DIAGRAM


J301 (PRE PRO)
VJS2744A040
J302 (ENC)
VJS2744A040
J303 (SYNC)
VJS2744A040
J304 (POWER)
VJS2744A040
P311 BACK
TO PW-SW
P307
TO CN&SYS-PW
VJP27418018
P306
TO PREAMP
VJP27418010
P313
TO VF
VJP27418006
P304
TO SYS-1
VJS29070020
P309
TO DIGITAL
VJP27418026
P312
TO 79P
VJP27418022
P308
TO SYS-2
VJS29070018
P305
TO PLS-1
P310
TO PLS-2
J1
VWJ0023
Q1
UN2211
D1
MA151K
D2
EA600C04F
R1
470
R2
R3
R4
R5
C1
C2
C3
C4
C5
C6
C7
TP1
TP2
TP3
AGND
D5V
C2-T.P.E
B4-E
B4-T.P
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

	C2-T.P.E B4-E	B4-T.P
R2	0	——
R3	——	0
R4	——	0
R5	——	0

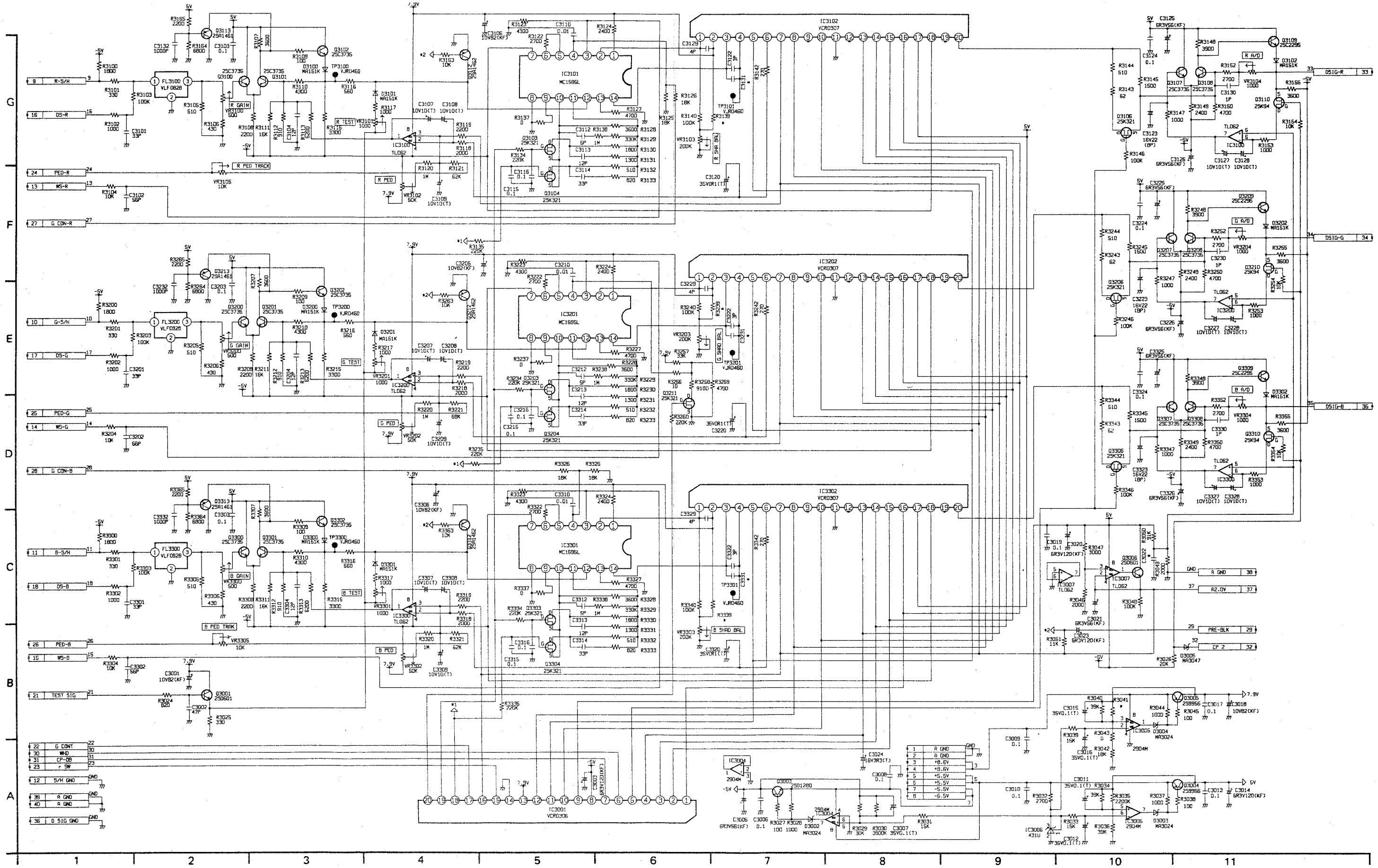
REVERSE SIDE **INTER CONNECTION**

PRE AMP SCHEMATIC DIAGRAM



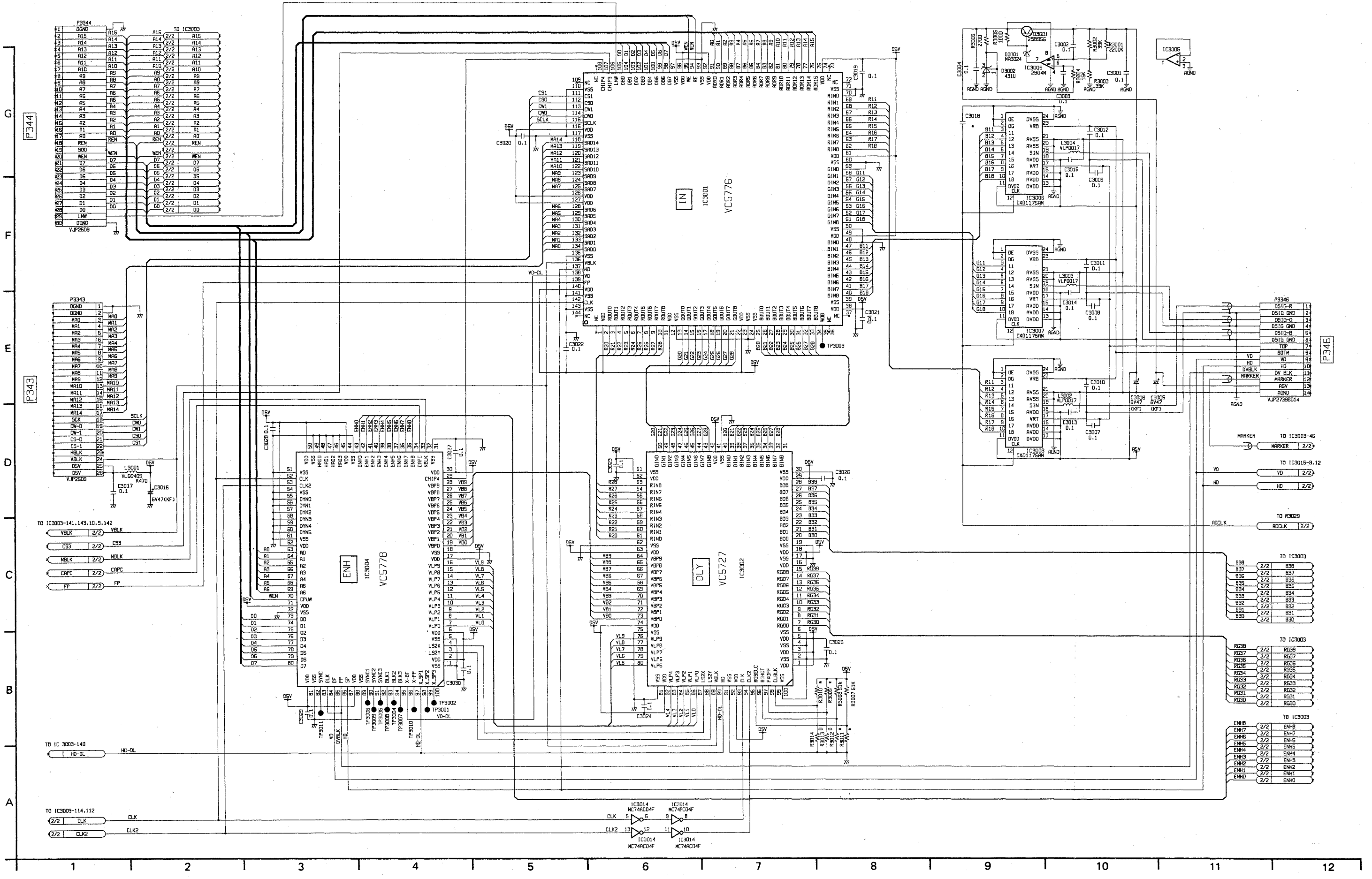
P241
R IN
GND
P248
SMPL
GND
CLMP
GND
P242
G IN
GND
P243
B IN
GND
P247
+8.6V
A GND
A GND
P244
R OUT
R GND
P245
G OUT
G GND
P246
B OUT
B GND
TP5003
TP5004
TP5005
TP5101
TP5102
TP5103
TP5201
TP5202
TP5203
TP5301
TP5302
TP5303
TPG5001
TPG5002
CLMP
SAMPLE
Q5001
2SB956
+8V
R8 3300
R9 100
D1 MA3047M
IC5002 2904M
C5004 16V27 (KF)
C5005 25V10 (KF)
IC5001 431U
R5005 4300
R5006 56K
R5007 56K
C5006 1000P
R5010 33K
C5007 10V39 (KF)
R5011 56K
R5001 47K
R5002 27K
R5003 47K
R5004 27K
C5101 16V10
R5101 30K
R5102 27K
R5103 220
Q5101 2SA1022
R5104 2700
Q5102 3SK157
C5102 25V10 (KF)
C5103 47P
R5105 22
R5106 1000
Q5103 2SC2295
R5107 15K
Q5104 2SA1022
R5108 4700
Q5105 3SK157
R5109 22
C5104 47P
Q5106 2SC2295
R5132 0
R5110 15K
Q5116 2SC3735
Q5118 2SC3735
C5113 0
R5139 3000
VR5101 5K
Q5117 2SC2295
Q5119 2SC2295
VR102 20K
R5124 300
R5134 1000
R5126 300
C5111 25V10 (KF)
Q5123 2SB710
R5137 2200
R5130 4700
R5140 8200
R5136 16K
R5125 1800
R5128 1200
Q5121 2SA1462
Q5122 2SA1462
R127 1800
Q5120 2SD601
C5112 10V39 (KF)
R5129 4700
R5131 4700
C5114 3P
D5102 HZ2BLL
C5105 10V39 (KF)
R5111 220
R5112 4700
Q5107 2SA1022
Q5108 3SK157
R5113 22
C5106 47P
Q5109 2SC2295
R5114 15K
Q5110 2SA1022
R5115 4700
Q5111 3SK157
R5116 22
R5117 1000
C5107 47P
Q5112 2SC2295
R5118 15K
R5119 4700
Q5113 2SA1022
Q5114 3SK157
C5108 25V10 (KF)
R5120 22
VC5101 30P
C5109 10P
Q5115 2SC2295
R5133 0
R5121 15K
R5201 30K
R5202 27K
C5201 16V10
R5203 220
Q5201 2SA1022
R5204 2700
Q5202 3SK157
C5202 25V10 (KF)
C5203 47P
R5205 22
R5206 1000
Q5203 2SC2295
R5207 15K
Q5204 2SA1022
R5208 4700
Q5205 3SK157
R5209 22
C5204 47P
Q5206 2SC2295
R5232 0
R5210 15K
Q5216 2SC3735
Q5218 2SC3735
C5213 0
R5239 3900
VR5201 5K
Q5217 2SC2295
Q5219 2SC2295
VR5202 20K
R5224 300
R5234 1000
R5226 300
C5211 25V10 (KF)
R5225 1800
R5228 1200
R5227 1800
Q5221 2SA1462
Q5222 2SA1462
Q5220 2SD601
C3212 10V39 (KF)
R5230 4700
R5229 4700
R5231 4700
C5214 3P
D5202 HZ2BLL
C5205 10V39 (KF)
R5211 220
R5212 4700
Q5207 2SA1022
Q5208 3SK157
R5213 22
C5206 47P
Q5209 2SC2295
R5214 15K
Q5210 2SA1022
R5215 4700
Q5211 3SK157
R5216 22
R5217 1000
C5207 47P
Q5212 2SC2295
R5218 15K
R5219 4700
Q5213 2SA1022
Q5214 3SK157
C5208 25V10 (KF)
R5220 22
VC5201 30P
C5209 10P
Q5215 2SC2295
R5233 0
R5221 15K
R5301 30K
R5302 27K
C5301 16V10
R5303 220
Q5301 2SA1022
R5304 2700
Q5302 3SK157
C5302 25V10 (KF)
C5303 47P
R5305 22
R5306 1000
Q5303 2SC2295
R5307 15K
Q5304 2SA1022
R5308 4700
Q5305 3SK157
R5309 22
C5304 47P
Q5306 2SC2295
R5332 0
R5310 15K
Q5316 2SC3735
Q5318 2SC3735
C5313 0
R5339 1800
VR5301 5K
Q5317 2SC2295
Q5319 2SC2295
VR5302 20K
R5324 180
R5334 750
R5326 180
C5311 25V10 (KF)
R5325 1800
R5328 1200
R5327 1800
Q5321 2SA1462
Q5322 2SA1462
Q5320 2SD601
C5312 10V39 (KF)
R5330 6800
R5329 10K
R5331 6800
C5314 3P
D5302 HZ2BLL
C5305 10V39 (KF)
R5311 220
R5312 4700
Q5307 2SA1022
Q5308 3SK157
R5313 22
C5306 47P
Q5309 2SC2295
R5314 15K
Q5310 2SA1022
R5315 4700
Q5311 3SK157
R5316 22
R5317 1000
C5307 47P
Q5312 2SC2295
R5318 15K
R5319 4700
Q5313 2SA1022
Q5314 3SK157
C5308 25V10 (KF)
R5320 22
VC301 30P
C5309 10P
Q5315 2SC2295
R5333 0
R5321 15K
SUB
G
D
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12

PRE PROCESS SCHEMATIC DIAGRAM

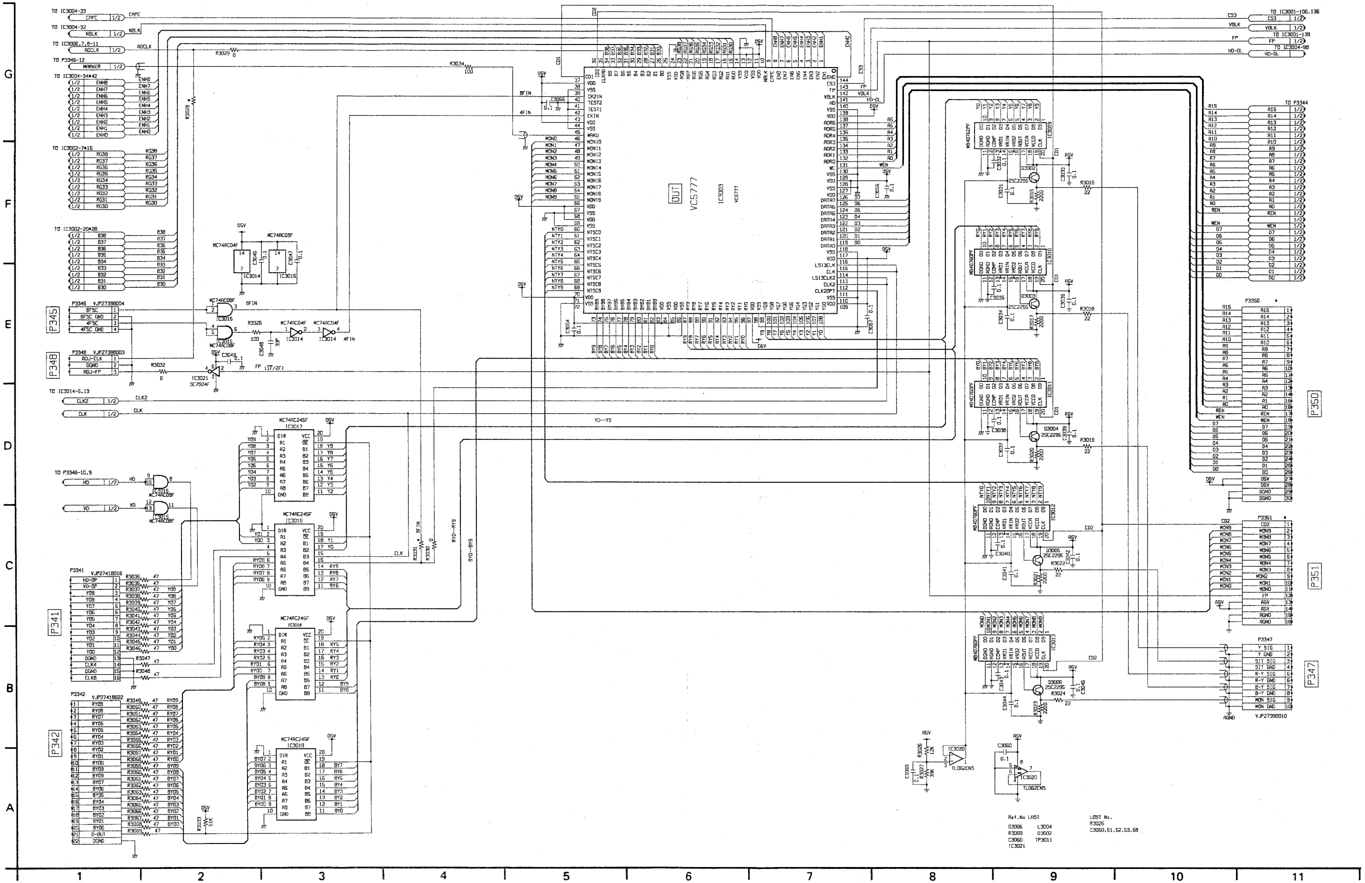

9 R-S/H
16 DS-R
24 PED-R
13 WS-R
27 G CON-R
10 G-S/H
17 DS-G
25 PED-G
14 WS-G
28 G CON-B
11 B-S/H
18 DS-B
26 PED-B
15 WS-B
21 TEST SIG
22 G CONT
30 WHD
31 CP-OB
23 r SW
12 S/H GND
39 A GND
40 A GND
36 D SIG GND
FL3100 VLF0828
FL3200 VLF0828
FL3300 VLF0828
IC3101 MC1595L
IC3201 MC1595L
IC3301 MC1595L
IC3102 VCR0307
IC3202 VCR0307
IC3302 VCR0307
IC3001 VCR0306
IC3100 TL062
IC3200 TL062
IC3300 TL062
IC3007 TL062
IC3004 2904M
IC3005 2904M
IC3006 2904M
R GAIN
G GAIN
B GAIN
R TEST
G TEST
B TEST
R PED
G PED
B PED
R PED TRACK
B PED TRAK
R SHA BAL
G SHAD BAL
B SHAD BAL
R A/D
G A/D
B A/D
DSIG-R 33
DSIG-G 34
DSIG-B 35
R GND 38
R2.0V 37
PRE-BLK 29
CP 2 32
A GND
A GND
+8.6V
+8.6V
+5.5V
+5.5V
-5.5V
-5.5V
+7.9V
5V
-5V
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

REVERSE SIDE PRE AMP
SCHEMATIC DIAGRAM

DIGITAL PROCESS SCHEMATIC DIAGRAM 1/2

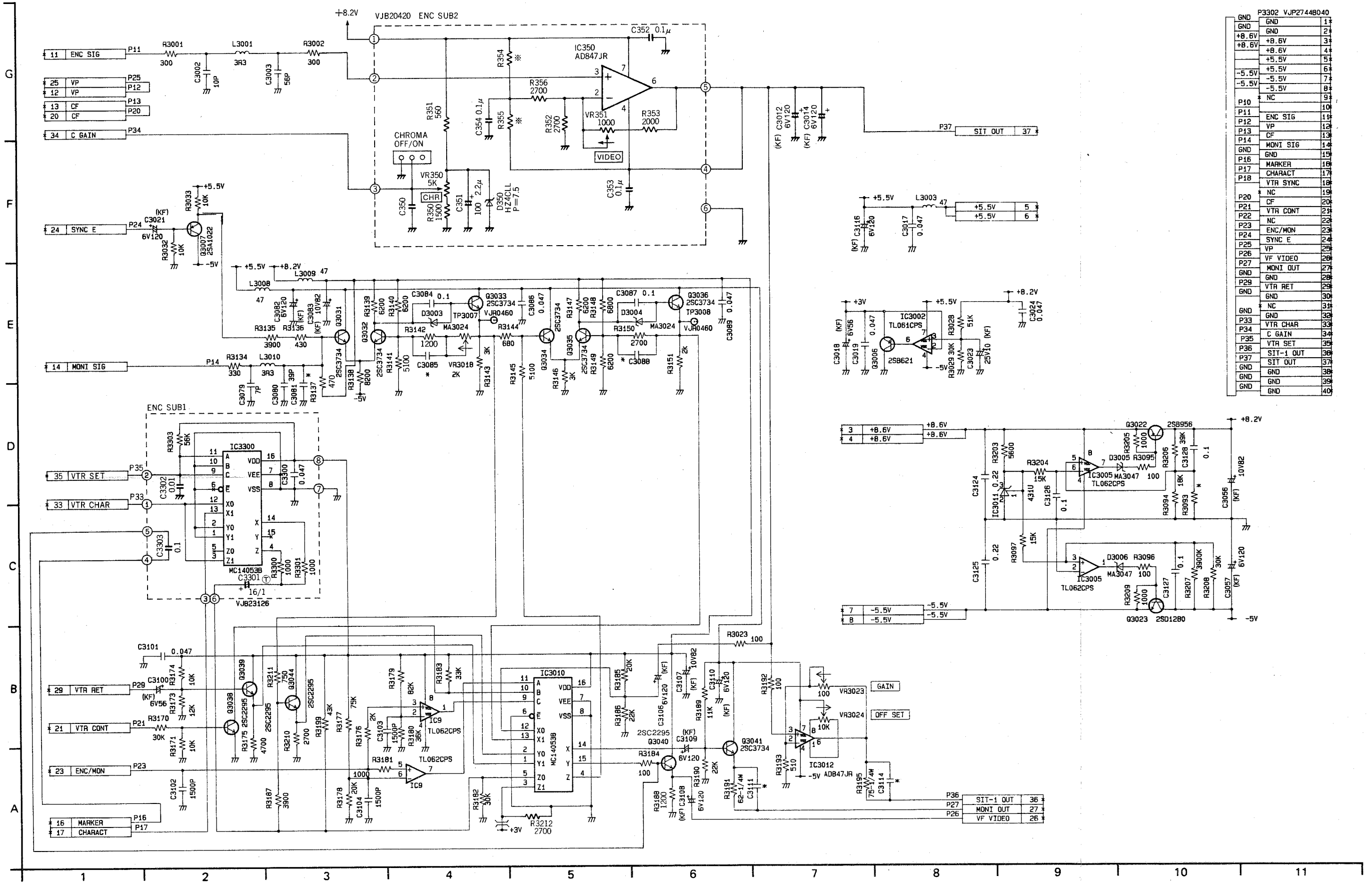

P344
P3344
VJP2609
TO IC3003
P343
P3343
VJP2609
IC3001
VC5776
IN
IC3004
VC5778
ENH
IC3002
VC5727
DLY
IC3006
CXD1175AM
IC3007
CXD1175AM
IC3008
CXD1175AM
IC3005
2904M
Q3001
2SB956
D3001
MA3024
D3002
431U
P3346
VJP2739B014
P346
TO IC3003-141,143,10,9,142
VBLK
CS3
NBLK
CAPC
FP
TO IC 3003-140
HD-DL
TO IC3003-114,112
CLK
CLK2
IC3014
MC74AC04F
MARKER
TO IC3003-46
TO IC3015-9,12
VD
HD
TO R3029
ADCLK
TO IC3003
DSV
AGND
TP3001
TP3002
TP3003
L3001
VL00409
C3016
6V47(KF)
C3017
0.1
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G

DIGITAL PROCESS SCHEMATIC DIAGRAM 2/2

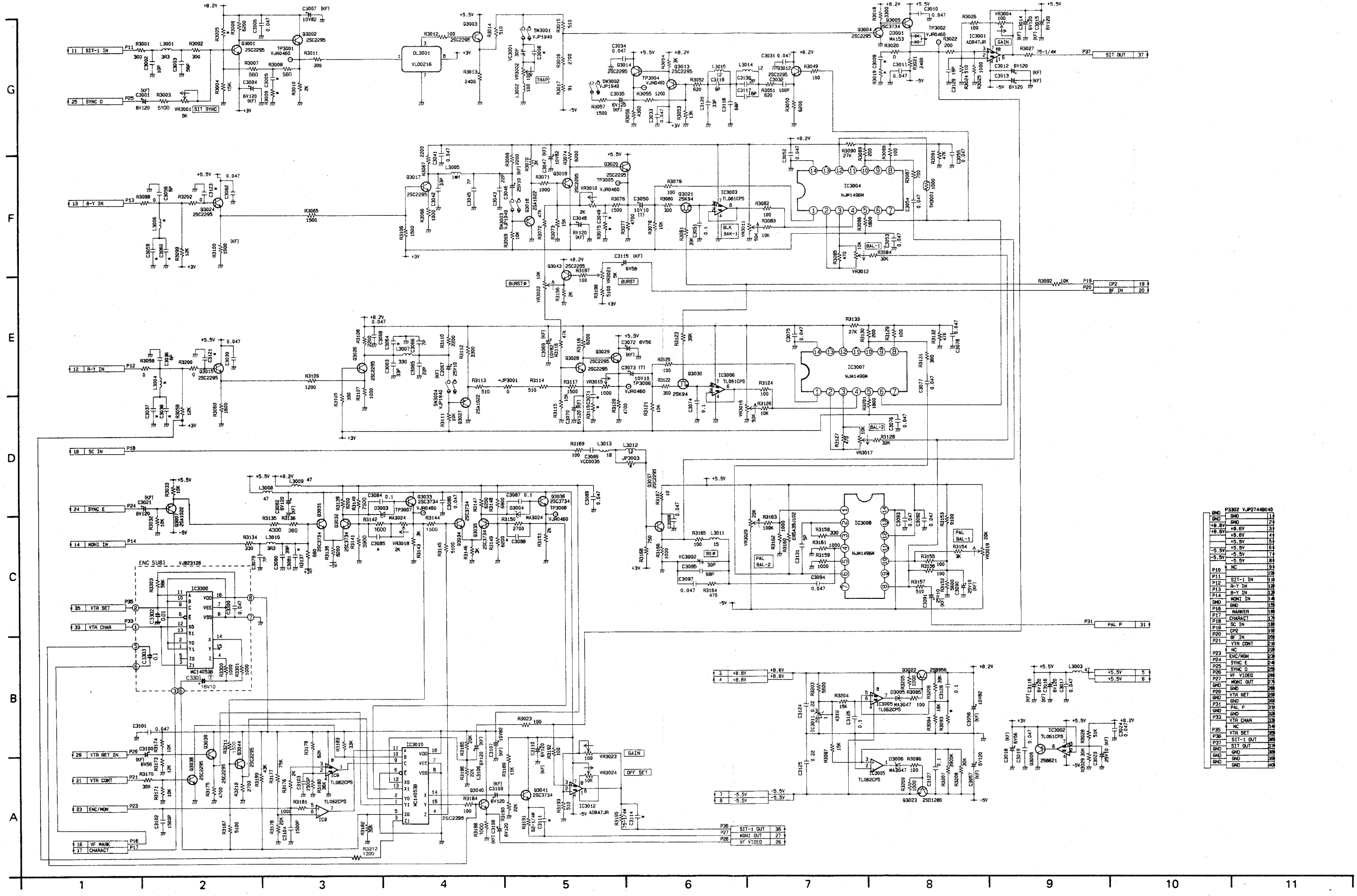

TO IC3004-33
CAPC
TO IC3004-32
NBLK
TO IC3006,7,8-11
ADCLK
TO P3346-12
MARKER
TO IC3004-34#42
ENH8
ENH7
ENH6
ENH5
ENH4
ENH3
ENH2
ENH1
ENH0
TO IC3002-7#15
RG38
RG37
RG36
RG35
RG34
RG33
RG32
RG31
RG30
TO IC3002-20#28
B38
B37
B36
B35
B34
B33
B32
B31
B30
R3029
R3034
R3028
IC3003
VC5777
OUT
MC74AC04F
MC74AC05F
IC3014
IC3015
MC74AC08F
IC3016
P345
P3345 VJP27398004
BFSC
BFSC GND
4FSC
4FSC GND
BFIN
4FIN
R3026
P348
P3348 VJP27398003
ADJ-CLK
DGND
ADJ-FP
R3032
IC3021
SC7S04F
FP (1F/2F)
TO IC3014-6,13
CLK2
CLK
YD~Y9
MC74AC245F
IC3017
IC3016
IC3018
IC3019
TO P3346-10,9
HD
VD
P341
P3341 VJP27418016
P342
P3342 VJP27418022
R3030
R3031
R3033
RYD~RY9
BYD~BY9
TO IC3001-106,136
CS3
VBLK
TO IC3001-139
FP
TO IC3004-98
HD-DL
TO P3344
MB40760PF
IC3009
IC3010
IC3011
IC3012
IC3013
Q3002
Q3003
Q3004
Q3005
Q3006
2SC2295
R3015
R3016
R3017
R3018
R3019
R3020
R3021
R3022
R3023
R3024
P350
P3350
P351
P3351
P347
P3347
Y SIG
Y GND
SIT SIG
SIT GND
R-Y SIG
R-Y GND
B-Y SIG
B-Y GND
MON SIG
MON GND
VJP27398010
AGND
R3026
R3027
IC3020
TL062CN5
C3060
Ref.No LAST
Q3006 L3004
R3089 D3002
C3060 TP3011
IC3021
LOST No.
R3026
C3050,51,52,53,58
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11

REVERSE SIDE **DIGITAL PROCESS SCHEMATIC DIAGRAM**

ENCODER SCHEMATIC DIAGRAM (FOR NTSC MODEL)

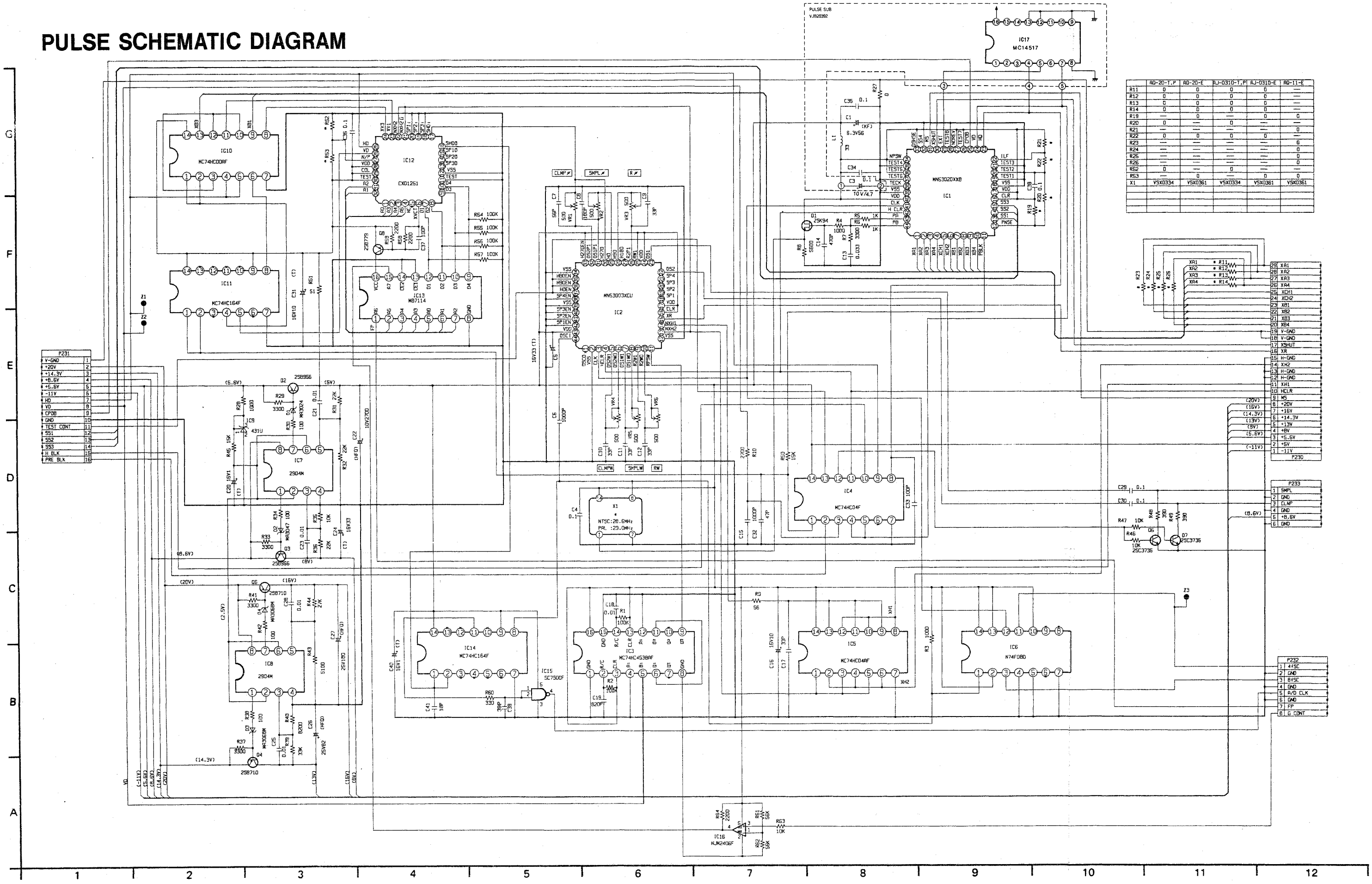

VJB20420 ENC SUB2
+8.2V
IC350
AD847JR
CHROMA OFF/ON
VR350 5K
CHR
VIDEO
VR351 1000
D350 HZ4CLL P=7.5
C352 0.1μ
ENC SIG
VP
CF
C GAIN
SYNC E
MONI SIG
VTR SET
VTR CHAR
VTR RET
VTR CONT
ENC/MON
MARKER
CHARACT
SIT OUT
ENC SUB1
IC3300
MC14053B
VJB23126
IC3010
MC14053B
IC9
TL062CPS
IC3012
AD847JR
VR3023 GAIN
VR3024 OFF SET
SIT-1 OUT
MONI OUT
VF VIDEO
IC3002
TL061CPS
IC3005
TL062CPS
IC3011
Q3022 2SB956
Q3023 2SD1280
P3302 VJP27448040
GND
+8.6V
+5.5V
-5.5V
NC
VTR SYNC
-5V
+3V
+8.2V
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

ENCODER SCHEMATIC DIAGRAM (FOR PAL MODEL)


11 SIT-1 IN
25 SYNC D
13 B-Y IN
12 R-Y IN
18 SC IN
24 SYNC E
14 MONI IN
35 VTR SET
33 VTR CHAR
29 VTR RET IN
21 VTR CONT
23 ENC/MON
16 VF MARK
17 CHARACT
37 SIT OUT
19 CP2
20 BF IN
31 PAL P
36 SIT-1 OUT
27 MONI OUT
26 VF VIDEO
DL3001 VL00216
IC3003 TL061CPS
IC3004 NJM1496M
IC3006 TL061CPS
IC3007 NJM1496M
IC3008 NJM1496M
IC3001 AD847JR
IC3010 MC14053B
IC3300 MC14053B
IC3005 TL062CPS
IC3002 TL061CPS
IC3012 AD847JR
ENC SUB1 VJB23126
SIT SYNC
TRAP
GAIN
BLK BAK-1
BAL-1
BAL-2
BURST
90°
PAL BAL-1
PAL BAL-2
OFF SET
P3302 VJP2744B040
GND GND 1
GND GND 2
+8.6V +8.6V 3
+8.6V +8.6V 4
+5.5V 5
+5.5V 6
-5.5V -5.5V 7
-5.5V -5.5V 8
P10 NC 9
P11 10
P12 SIT-1 IN 11
P13 R-Y IN 12
P14 B-Y IN 13
GND MONI IN 14
P16 GND 15
P17 MARKER 16
P18 CHARACT 17
P19 SC IN 18
P20 CP2 19
P21 BF IN 20
VTR CONT 21
P23 NC 22
P24 ENC/MON 23
P25 SYNC E 24
P26 SYNC D 25
P27 VF VIDEO 26
GND MONI OUT 27
P29 GND 28
GND VTR RET 29
P31 GND 30
GND PAL P 31
P33 GND 32
VTR CHAR 33
P35 NC 34
P36 VTR SET 35
P37 SIT-1 OUT 36
GND SIT OUT 37
GND GND 38
GND GND 39
GND 40
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11

REVERSE SIDE ENCODER
SCHEMATIC DIAGRAM

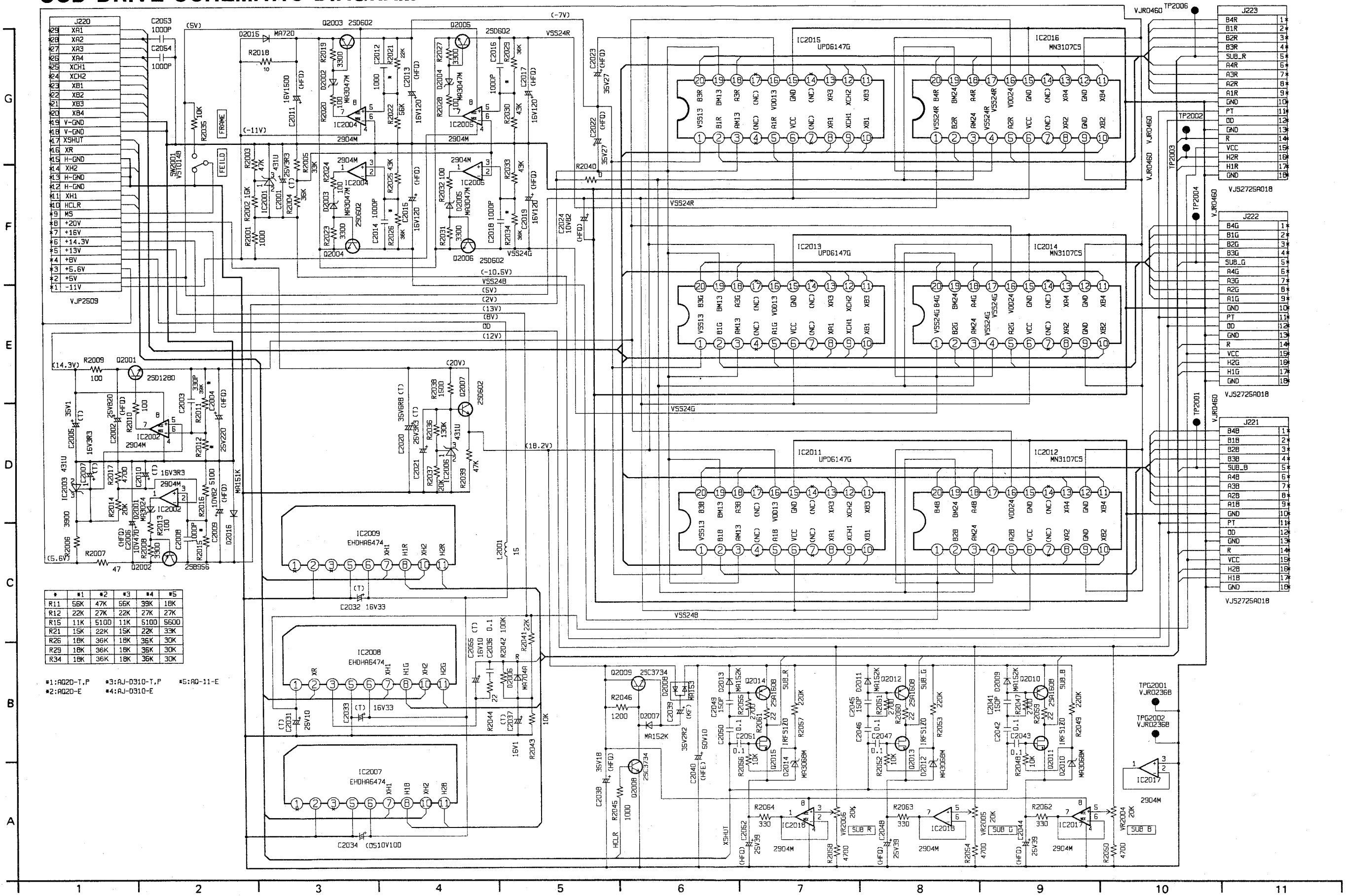
PULSE SCHEMATIC DIAGRAM



PULSE SUB
VJB20392
IC17
MC14517
IC10
MC74HC00AF
IC12
CXD1251
IC11
MC74HC164F
IC13
MB7114
IC2
MN53003XCU
IC1
MN53020XXB
X1
NTSC:28.6MHz
PAL :23.0MHz
IC7
2904M
IC8
2904M
IC4
MC74HC04F
IC14
MC74HC164F
IC15
SC7S00F
IC3
MC74HC4538AF
IC5
MC74HC04AF
IC6
N74F08D
IC16
NJM2406F
P231
V-GND
+20V
+14.3V
+8.6V
+5.6V
-11V
HD
VD
CPDB
GND
TEST CONT
SS1
SS2
SS3
H BLK
PRE BLK
P230
P233
SMPL
GND
CLMP
GND
+8.6V
GND
P232
4fSC
GND
8fSC
GND
A/D CLK
GND
FP
G CONT
CLMP
SMPL
R
CLMPW
SMPLW
RW
Q1 2SK94
Q2 2SB956
Q3 2SB956
Q4 2SB710
Q5 2SB710
Q6 2SC3735
Q7 2SC3735
Q8 2SB779
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12

	AD-20-T.P	AD-20-E	AJ-0310-T.P	AJ-0310-E	AQ-11-E
R11	0	0	0	0	—
R12	0	0	0	0	—
R13	0	0	0	0	—
R14	0	0	0	0	—
R19	—	0	—	0	0
R20	0	—	0	—	—
R21	—	—	—	—	0
R22	0	0	0	0	—
R23	—	—	—	—	0
R24	—	—	—	—	0
R25	—	—	—	—	0
R26	—	—	—	—	0
R52	0	—	0	—	—
R53	—	0	—	0	0
X1	VSX0334	VSX0361	VSX0334	VSX0361	VSX0361

CCD DRIVE SCHEMATIC DIAGRAM

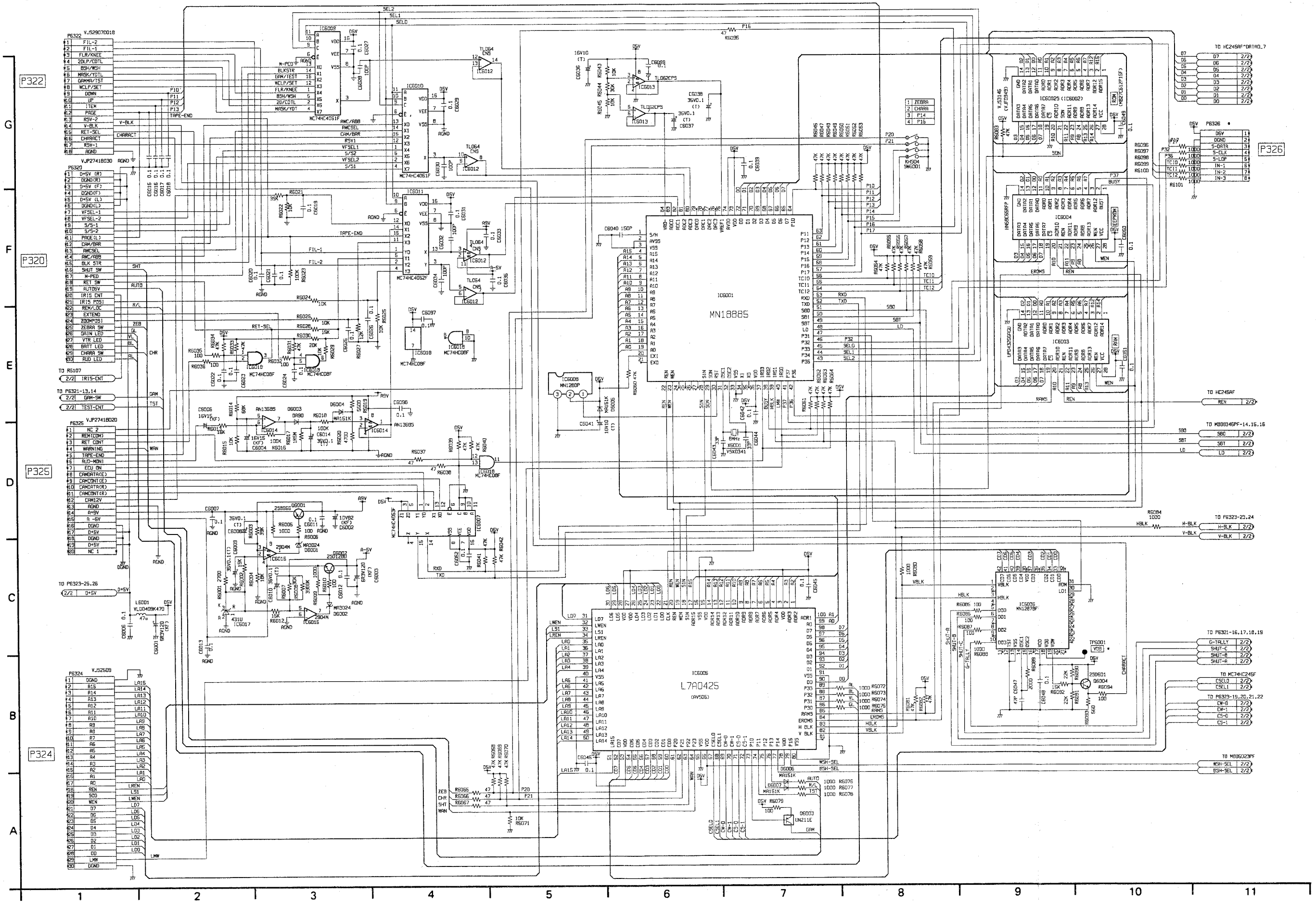

J220
VJP2509
J223
VJS2725A018
J222
VJS2725A018
J221
VJS2725A018
IC2015 UPD6147G
IC2016 MN3107CS
IC2013 UPD6147G
IC2014 MN3107CS
IC2011 UPD6147G
IC2012 MN3107CS
IC2009 EHDHA6474
IC2008 EHDHA6474
IC2007 EHDHA6474
IC2001
IC2002
IC2004
IC2005
IC2016
IC2017
IC2018
2904M
Q2001 2SD1280
Q2002 2SB956
Q2003 2SD602
Q2004
Q2005 2SD602
Q2006 2SD602
Q2007 2SD602
Q2009 2SC3734
Q2008 2SC3734
SW2001 VS1014B
FRAME
FEILD
(5V)
(-7V)
(-11V)
VSS24R
VSS24G
VSS24B
(-10.5V)
(2V)
(13V)
(8V)
OD
(12V)
(14.3V)
(20V)
(18.2V)
(5.6V)
TP2001
TP2002
TP2003
TP2004
TP2006
TPG2001 VJR0236B
TPG2002 VJR0236B
VJR0460
SUB R
SUB G
SUB B
XSHUT
HCLR
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

*	*1	*2	*3	*4	*5
R11	56K	47K	56K	39K	18K
R12	22K	27K	22K	27K	27K
R15	11K	5100	11K	5100	5600
R21	15K	22K	15K	22K	33K
R26	18K	36K	18K	36K	30K
R29	18K	36K	18K	36K	30K
R34	18K	36K	18K	36K	30K

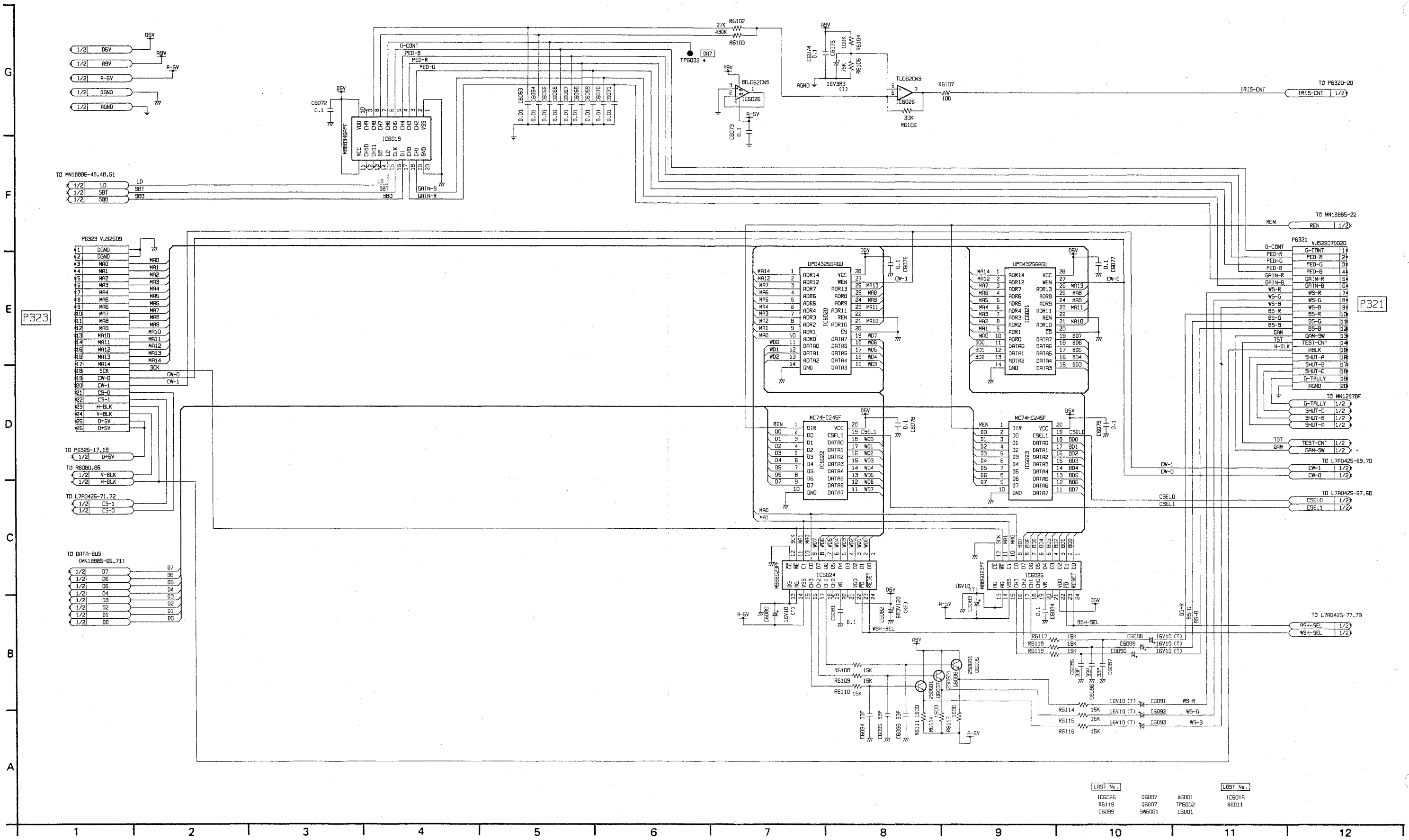
*1:AQ20-T,P
*2:AQ20-E
*3:AJ-D310-T,P
*4:AJ-D310-E
*5:AQ-11-E

REVERSE SIDE PULSE SCHEMATIC DIAGRAM

SYSTEM CONTROL SCHEMATIC DIAGRAM1/2

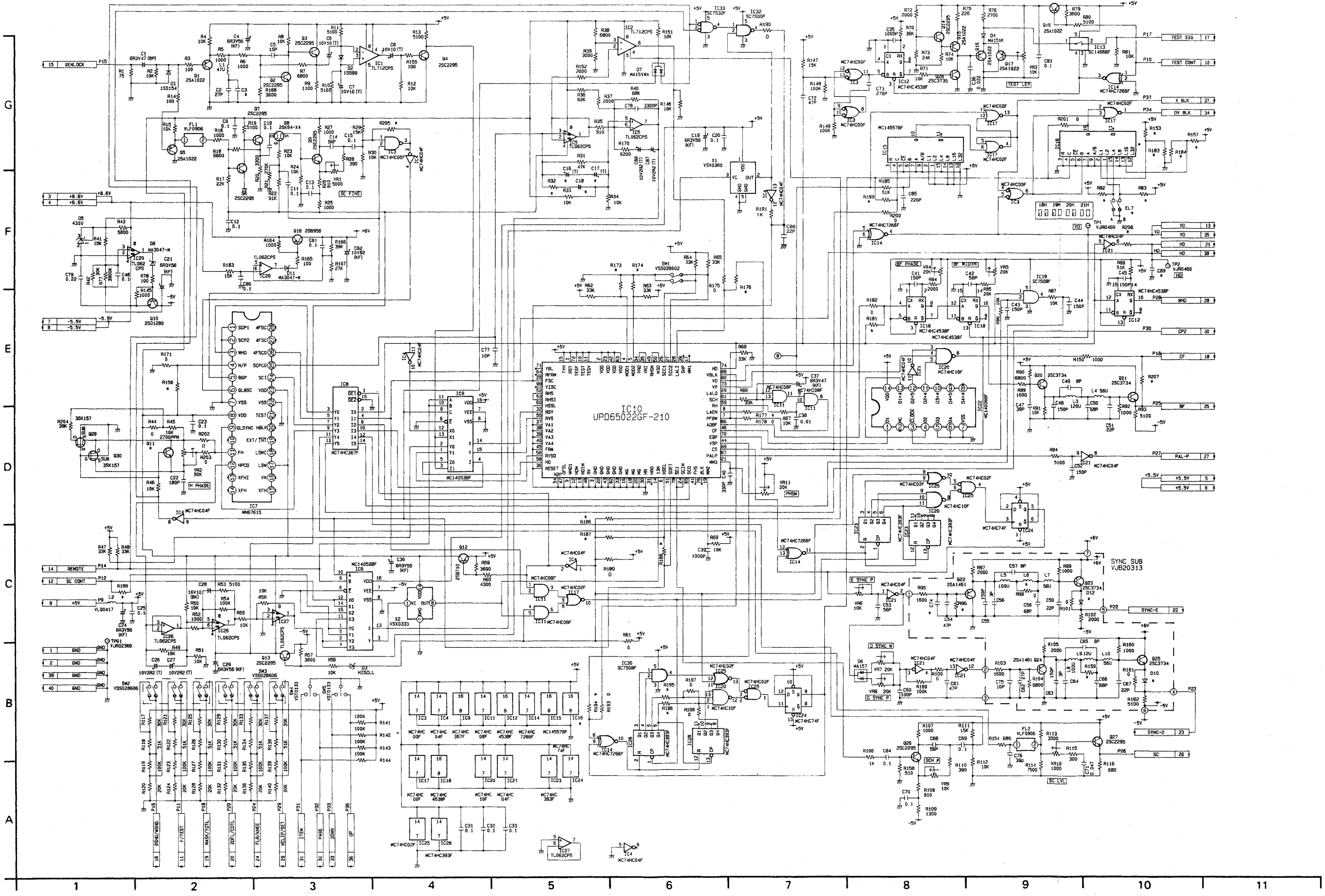

P322
P320
P325
P324
P326
VJS29070018
VJP27418030
VJP27418020
VJS2609
IC6009
MC74HC4051F
IC6010
MC74HC4051F
IC6011
MC74HC4052F
TL064
IC6012
TL062CPS
IC6013
IC6001
MN18885
IC6025 (IC6002)
IC6004
IC6003
IC6008
MN1280P
IC6018
MC74HC08F
AN1358S
IC6014
IC6007
MC74HC4053F
2904N
IC6015
431U
IC6017
IC6005
L7A0425
(AVS05)
IC6006
MN1287BF
TO HC245AF*DATA0_7
TO HC245AF
TO MB88346PF-14,15,16
TO P6323-23,24
TO P6321-16,17,18,19
TO MC74HC245F
TO P6323-19,20,21,22
TO MB89023PF
TO RS107
TO P6321-13,14
TO P6323-25,26
ZEBRA
CHARA
P14
P15
SEL2
SEL1
SEL0
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

SYSTEM CONTROL SCHEMATIC DIAGRAM2/2

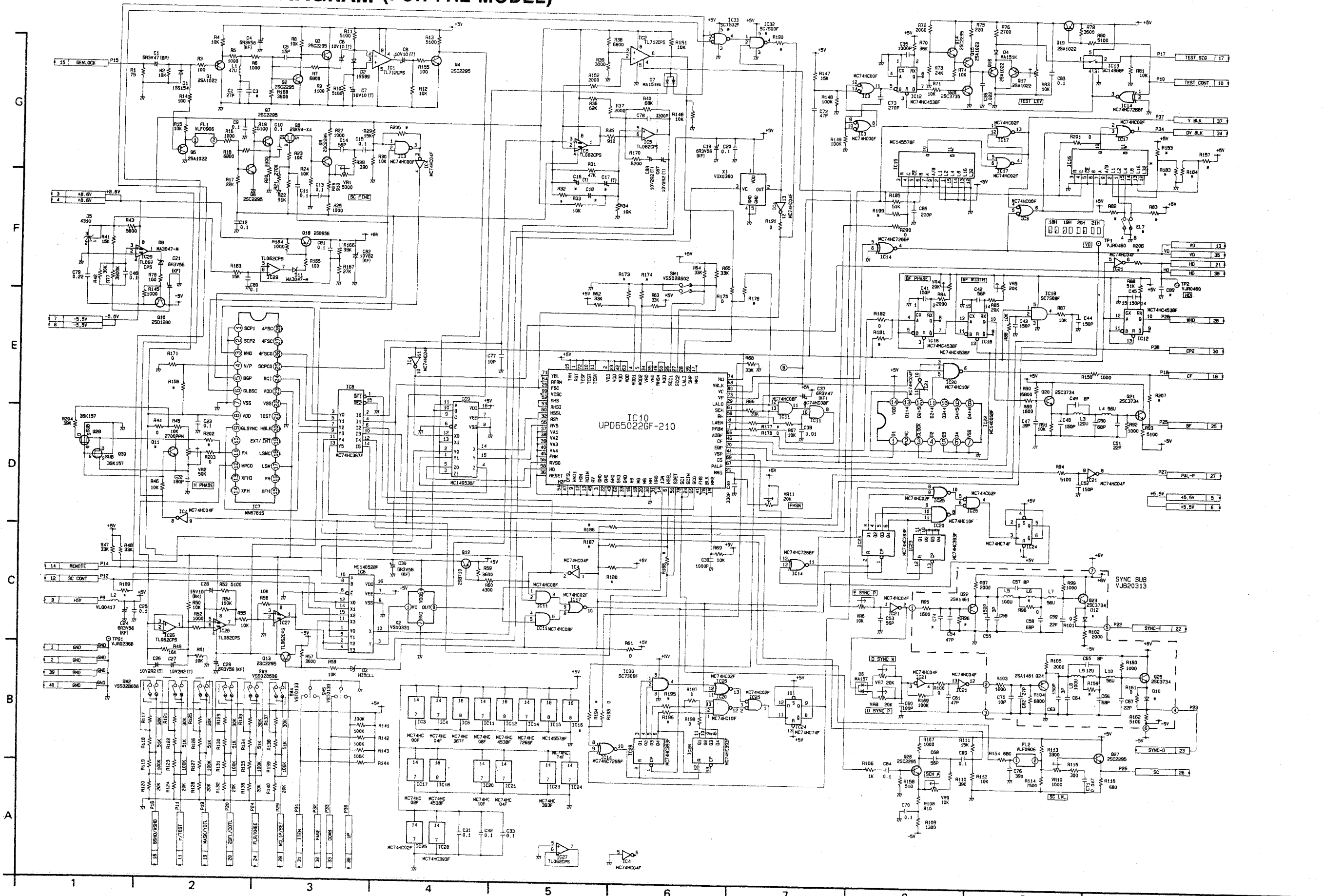

P323
P6323 VJS2609
P321
P6321 VJS2907002D
IC6019
MB88346BPF
IC6026
BTL062CNS
TL062CNS
R6102
R6103
R6104
R6105
R6106
R6107
TP6002
IRIS-CNT
TO P6320-20
TO MN18885-48,48,51
LD
SBT
SBO
GAIN-B
GAIN-R
G-CONT
PED-B
PED-R
PED-G
UPD43256AGU
IC6020
IC6021
MC74HC245F
IC6022
IC6023
MB86023PF
IC6024
IC6025
TO MN18885-22
REN
TO MN12878F
G-TALLY
SHUT-C
SHUT-B
SHUT-A
TEST-CNT
GAM-SW
TO L7A0425-69,70
CW-1
CW-0
TO L7A0425-67,68
CSEL0
CSEL1
TO L7A0425-77,79
BSH-SEL
WSH-SEL
TO P6325-17,19
D+5V
TO R6080,85
V-BLK
H-BLK
TO L7A0425-71,72
CS-1
CS-0
TO DATA-BUS
(MN18885-65_71)
D7
D6
D5
D4
D3
D2
D1
D0
D5V
A9V
A-5V
DGND
AGND
2SC601
Q6005
Q6006
Q6007
WS-R
WS-G
WS-B
BS-R
BS-G
BS-B
LAST No.
IC6026
R6119
C6099
D6007
Q6007
SW6001
X6001
TP6002
L6001
LOST No.
IC6016
R6011
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

REVERSE SIDE **SYSTEM CONTROL SCHEMATIC DIAGRAM**

SYNC SCHEMATIC DIAGRAM (FOR PAL MODEL)

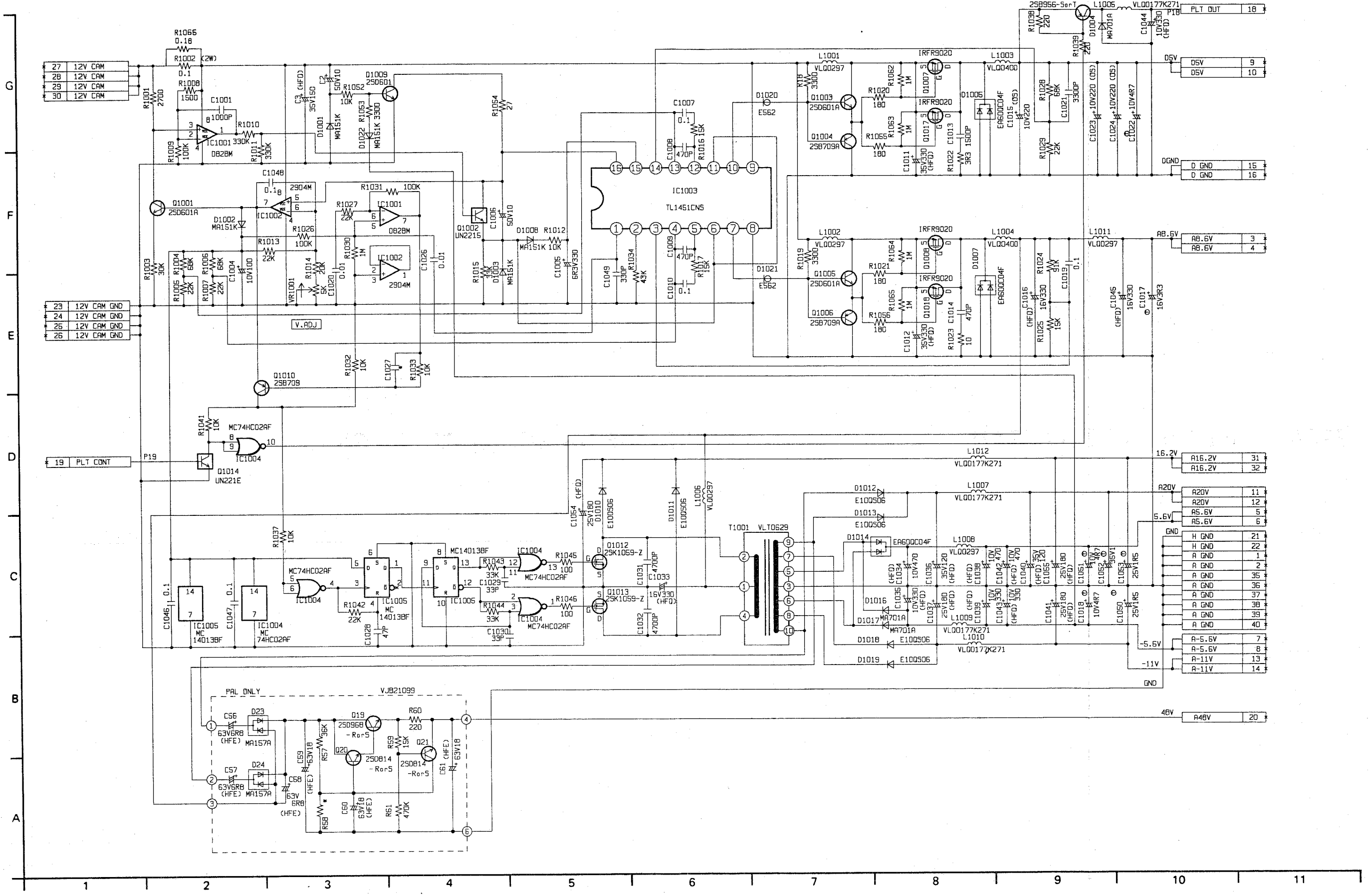

GENLOCK
+8.6V
-5.5V
REMOTE
SC CONT
+5V
GND
IC1 TL712CPS
IC2 TL712CPS
IC5 TL062CPS
IC7 MN6761S
IC8 MC74HC367F
IC9 MC14053BF
IC10 UPD65022GF-210
IC6 MC14052BF
IC13 SC14566F
IC15 MC14557BF
IC22 MC14066BF
IC26 TL062CPS
IC27 TL062CPS
IC29 TL062CPS
X1 VSX0360
X2 VSX0333
SC FINE
H PHASE
BF PHASE
BF WIDTH
TEST LEV
PHSH
SC LVL
SYNC SUB VJB20313
E SYNC P
D SYNC W
D SYNC P
TEST SIG
TEST CONT
V BLK
DV BLK
VD
HD
MHD
CP2
CF
BF
PAL-P
+5.5V
SYNC-E
SYNC-D
SC
RS/WD/HSND
F/TEST
MASK/YDTL
2DFL/CDTL
FLR/KNEE
WCLIP/SET
ITEM
PAGE
DOWN
UP
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G

SYNC SCHEMATIC DIAGRAM (FOR PAL MODEL)


GENLOCK
+8.6V
-5.5V
REMOTE
SC CONT
+5V
GND
TEST SIG
TEST CONT
V BLK
DY BLK
VD
HD
WHD
CP2
CF
BF
PAL-P
+5.5V
SYNC-E
SYNC-D
SC
SYNC SUB
VJB20313
IC10
UPD65022GF-210
IC7
MN6761S
IC8
MC74HC367F
IC9
MC14538F
IC6
MC14052BF
MC14557BF
MC74HC4538F
MC74HC393F
MC74HC02F
MC74HC04F
MC74HC10F
MC74HC74F
MC74HC7266F
X1
VSX0360
X2
VSX0333
SC FINE
H PHASE
BF PHASE
BF WIDTH
PHSH
SC LVL
SCH
TEST LEV
SW1
VSS028602
SW2
VSS028606
SW3
VSS028606
BSND/WSND
F/TEST
MASK/DDTL
2DPL/CDTL
FLR/KNEE
WCLIP/SET
ITEM
PAGE
DOWN
UP
D SYNC N
D SYNC P
E SYNC P
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

REVERSE SIDE SYNC
SCHEMATIC DIAGRAM

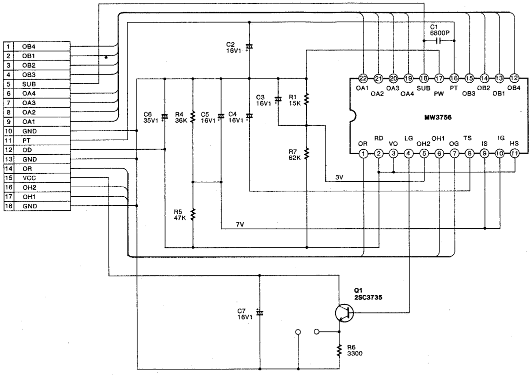
CAMERA POWER SCHEMATIC DIAGRAM



27 12V CAM
28 12V CAM
29 12V CAM
30 12V CAM
23 12V CAM GND
24 12V CAM GND
25 12V CAM GND
26 12V CAM GND
19 PLT CONT
P19
R1066 0.18
R1002 0.1 (2W)
R1008 1500
R1001 2700
C1001 1000P
IC1001 DB28M
R1010 330K
R1011 330K
R1009 100K
C3 (HFD) 35V150
C2 50V10
R1052 10K
Q1009 2SD601
D1001
MA151K
D1022
R1053 MA151K 3300
R1054 27
C1048 0.18
2904M
IC1002
Q1001 2SD601A
D1002 MA151K
R1031 100K
R1027 22K
IC1001 DB28M
R1026 100K
R1013 22K
IC1002 2904M
R1030 1M
R1014 20K
VR1001 5K
C1020 0.01
C1026 0.01
V.ADJ
R1003 30K
R1004 68K
R1005 22K
R1006 68K
R1007 22K
C1004 10V100
Q1002 UN2215
C1006 50V10
D1008 MA151K
R1012 10K
R1015 43K
D1003 MA151K
C1005 6R3V330
C1007 0.1
C1008 470P
R1016 15K
IC1003 TL1451CNS
C1049 330P
R1034 43K
C1009 470P
R1017 15K
C1010 0.1
D1020 E562
D1021 E562
Q1010 2SB709
R1032 10K
C1027
R1033 10K
R1041 10K
MC74HC02AF
IC1004
Q1014 UN221E
Q1011 2SB956-SorT
R1038 220
R1039 220
D1004 MA701A
L1005 VLQ0177K271
C1044 10V330 (HFD)
P18
PLT OUT 18
L1001 VLQ0297
R18 3300
Q1003 2SD601A
Q1004 2SB709A
R1062 1M
R1020 180
R1063 1M
R1055 180
IRFR9020
Q1007
Q1017
C1011 35V330 (HFD)
R1022 3R3
C1013 1500P
L1003 VLQ0400
D1005 EA60QC04F
C1015 10V220 (D5)
R1028 68K
C1021 3300P
R1029 22K
C1023 10V220 (D5)
C1024 10V220 (D5)
C1022 10V4R7
D5V
D5V 9
D5V 10
DGND
D GND 15
D GND 16
L1002 VLQ0297
R19 3300
Q1005 2SD601A
Q1006 2SB709A
R1064 1M
R1021 180
R1065 1M
R1056 180
Q1008
Q1018
C1012 35V330 (HFD)
R1023 10
C1014 470P
L1004 VLQ0400
D1007 EA60QC04F
C1016 16V330 (HFD)
R1024 91K
R1025 15K
C1019 0.1
L1011 VLQ0297
C1045 16V330 (HFD)
C1017 16V3R3
A8.6V
A8.6V 3
A8.6V 4
L1012 VLQ0177K271
16.2V
A16.2V 31
A16.2V 32
C1054 25V180 (HFD)
D1010 E100506
D1011 E100506
L1006 VLQ0297
R1037 10K
C1046 0.1
IC1005 MC 14013BF
C1047 0.1
IC1004 MC 74HC02AF
MC74HC02AF
MC14013BF
IC1005 MC 14013BF
R1042 22K
C1028 47P
R1043 33K
C1029 33P
R1044 33K
C1030 33P
R1045 100
R1046 100
Q1012 2SK1059-Z
Q1013 2SK1059-Z
C1031 4700P
C1033 16V330 (HFD)
C1032 4700P
T1001 VLT0629
D1012 E100506
D1013 E100506
L1007 VLQ0177K271
A20V
A20V 11
A20V 12
5.6V
A5.6V 5
A5.6V 6
GND
D1014 EA60QC04F
L1008 VLQ0297
C1034 10V470 (HFD)
C1036 35V120 (HFD)
C1038 10V470 (HFD)
C1042 10V470 (HFD)
C1055 35V120 (HFD)
C1035 10V330 (HFD)
C1037 25V180 (HFD)
C1039 10V330 (HFD)
C1043 10V330 (HFD)
C1040 25V180 (HFD)
C1041 25V180 (HFD)
C1051 10V4R7
C1052 35V1
C1053 25V1R5
C1018 10V4R7
C1050 25V1R5
D1016
D1017 MA701A
L1009 VLQ0177K271
L1010 VLQ0177K271
D1018 E100506
D1019 E100506
H GND 21
H GND 22
A GND 1
A GND 2
A GND 35
A GND 36
A GND 37
A GND 38
A GND 39
A GND 40
-5.6V
A-5.6V 7
A-5.6V 8
-11V
A-11V 13
A-11V 14
GND
48V
A48V 20
PAL ONLY
VJB21099
C56 63V6R8 (HFE)
D23 MA157A
C57 63V6R8 (HFE)
D24 MA157A
C58 63V 6R8 (HFE)
C59 (HFE) 63V18
R57 56K
D19 2SD968 -RorS
Q20 2SD814 -RorS
R60 220
R59 15K
Q21 2SD814 -RorS
C61 (HFE) 63V18
R58
C60 63V18 (HFE)
R61 470K
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11

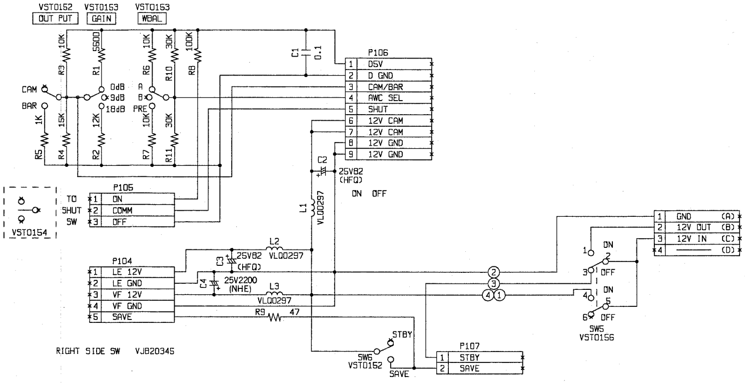
CCD MOUNT FRONT SW
RIGHT SIDE SW LEFT SIDE SW
SCHEMATIC DIAGRAM

CCD MOUNT SCHEMATIC DIAGRAM



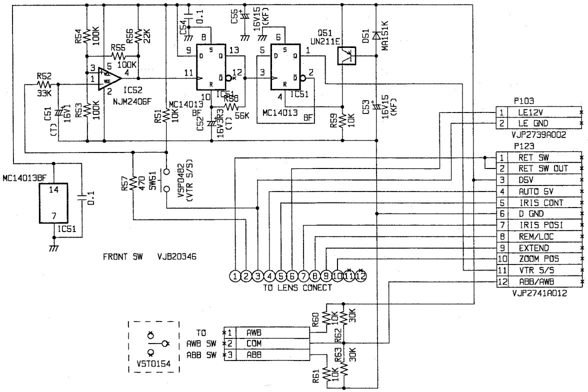
1 OB4
2 OB1
3 OB2
4 OB3
5 SUB
6 OA4
7 OA3
8 OA2
9 OA1
10 GND
11 PT
12 OD
13 GND
14 OR
15 VCC
16 OH2
17 OH1
18 GND
C1 6800P
C2 16V1
C3 16V1
R1 15K
C6 35V1
R4 36K
C5 16V1
C4 16V1
R7 62K
R5 47K
3V
7V
MW3756
OA1 OA2 OA3 OA4 SUB PW PT OB3 OB2 OB1 OB4
OR RD VO LG OH2 OH1 OG TS IS IG HS
Q1 2SC3735
C7 16V1
R6 3300

RIGHT SIDE SW SCHEMATIC DIAGRAM



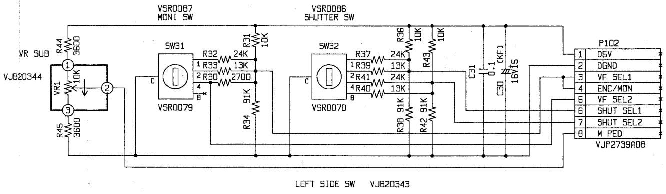
VST0152 OUT PUT
VST0153 GAIN
VST0153 WBAL
R3 10K
R1 5600
R6 10K
R10 30K
R8 100K
C1 0.1
CAM
BAR
0dB
9dB
18dB
A
B
PRE
R5 1K
R4 15K
R2 12K
R7 10K
R11 30K
P106
1 D5V
2 D GND
3 CAM/BAR
4 AWC SEL
5 SHUT
6 12V CAM
7 12V CAM
8 12V GND
9 12V GND
C2 25V82 (HFQ)
ON OFF
VST0154
TO SHUT SW
P105
1 ON
2 COMM
3 OFF
L1 VLQ0297
L2 VLQ0297
C3 25V82 (HFQ)
C4 25V2200 (NHE)
L3 VLQ0297
R9 47
P104
1 LE 12V
2 LE GND
3 VF 12V
4 VF GND
5 SAVE
1 GND (A)
2 12V OUT (B)
3 12V IN (C)
4 (D)
ON OFF ON OFF
SW5 VST0156
STBY
SW6 VST0152
SAVE
P107
1 STBY
2 SAVE
RIGHT SIDE SW VJB20345

FRONT SW SCHEMATIC DIAGRAM



R54 100K
R56 22K
R55 100K
R52 33K
C51 16V1 (T)
R53 100K
IC52 NJM2406F
R51 10K
MC14013 BF
C52 16V3R3 (T)
C54 0.1
C55 16V15 (KF)
R58 56K
MC14013 BF
IC51
Q51 UN211E
D51 MA151K
R59 10K
C53 16V15 (KF)
P103
1 LE12V
2 LE GND
VJP2739A002
P123
1 RET SW
2 RET SW OUT
3 D5V
4 AUTO 5V
5 IRIS CONT
6 D GND
7 IRIS POSI
8 REM/LOC
9 EXTEND
10 ZOOM POS
11 VTR S/S
12 ABB/AWB
VJP2741A012
MC14013BF
IC51
0.1
R57 470
SW51
VSP0482 (VTR S/S)
FRONT SW VJB20346
TO LENS CONECT
VST0154
TO AWB SW ABB SW
1 AWB
2 COM
3 ABB
R60 10K
30K
R62
R61 10K
R63 30K

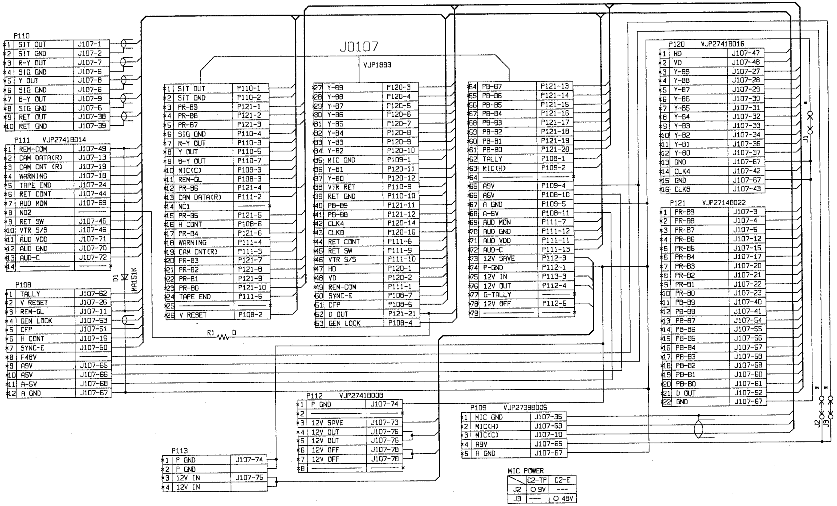
LEFT SIDE SW SCHEMATIC DIAGRAM



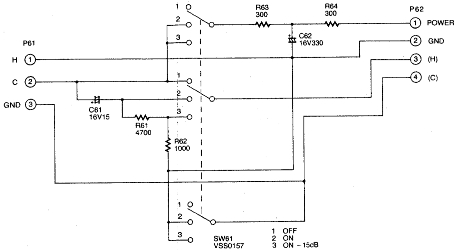
VSR0087 MONI SW
VSR0086 SHUTTER SW
VR SUB
VJB20344
R44 3600
VR1 10K
R45 3600
SW31
VSR0079
R32 24K
R33 13K
R30 2700
R31 10K
R34 91K
SW32
VSR0070
R37 24K
R39 13K
R41 24K
R40 13K
R36 10K
R43 10K
R38 91K
R42 91K
C31 0.1
C30 16V15 (KF)
P102
1 D5V
2 DGND
3 VF SEL1
4 ENC/MON
5 VF SEL2
6 SHUT SEL1
7 SHUT SEL2
8 M PED
VJP2739A08
LEFT SIDE SW VJB20343

REVERSE SIDE **POWER SCHEMATIC DIAGRAM**

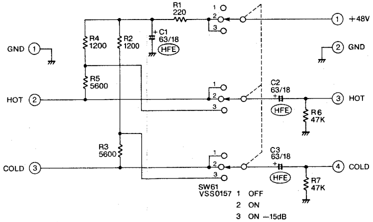
79 SCHEMATIC DIAGRAM


P110
1 SIT OUT J107-1
2 SIT GND J107-2
3 R-Y OUT J107-7
4 SIG GND J107-6
5 Y OUT J107-8
6 SIG GND J107-6
7 B-Y OUT J107-9
8 SIG GND J107-6
9 RET OUT J107-38
10 RET GND J107-39
P111 VJP27418014
1 REM-COM J107-49
2 CAM DATA(R) J107-13
3 CAM CNT (R) J107-19
4 WARNING J107-18
5 TAPE END J107-24
6 RET CONT J107-44
7 AUD MON J107-69
8 NO2
9 RET SW J107-45
10 VTR S/S J107-46
11 AUD VDD J107-71
12 AUD GND J107-70
13 AUD-C J107-72
14
D1 MA151K
P108
1 TALLY J107-62
2 V RESET J107-26
3 REM-GL J107-11
4 GEN LOCK J107-53
5 CFP J107-51
6 H CONT J107-16
7 SYNC-E J107-50
8 F48V
9 A9V J107-65
10 A5V J107-66
11 A-5V J107-68
12 A GND J107-67
J0107
VJP1893
1 SIT OUT P110-1
2 SIT GND P110-2
3 PR-B9 P121-1
4 PR-B8 P121-2
5 PR-B7 P121-3
6 SIG GND P110-4
7 R-Y OUT P110-3
8 Y OUT P110-5
9 B-Y OUT P110-7
10 MIC(C) P109-3
11 REM-GL P108-3
12 PR-B6 P121-4
13 CAM DATA(R) P111-2
14 NC1
15 PR-B5 P121-5
16 H CONT P108-6
17 PR-B4 P121-6
18 WARNING P111-4
19 CAM CNT(R) P111-3
20 PR-B3 P121-7
21 PR-B2 P121-8
22 PR-B1 P121-9
23 PR-B0 P121-10
24 TAPE END P111-5
25
26 V RESET P108-2
27 Y-B9 P120-3
28 Y-B8 P120-4
29 Y-B7 P120-5
30 Y-B6 P120-6
31 Y-B5 P120-7
32 Y-B4 P120-8
33 Y-B3 P120-9
34 Y-B2 P120-10
35 MIC GND P109-1
36 Y-B1 P120-11
37 Y-B0 P120-12
38 VTR RET P110-9
39 RET GND P110-10
40 PB-B9 P121-11
41 PB-B8 P121-12
42 CLK4 P120-14
43 CLK8 P120-16
44 RET CONT P111-6
45 RET SW P111-9
46 VTR S/S P111-10
47 HD P120-1
48 VD P120-2
49 REM-COM P111-1
50 SYNC-E P108-7
51 CFP P108-5
52 D OUT P121-21
53 GEN LOCK P108-4
54 PB-B7 P121-13
55 PB-B6 P121-14
56 PB-B5 P121-15
57 PB-B4 P121-16
58 PB-B3 P121-17
59 PB-B2 P121-18
60 PB-B1 P121-19
61 PB-B0 P121-20
62 TALLY P108-1
63 MIC(H) P109-2
64
65 A9V P109-4
66 A5V P108-10
67 A GND P109-5
68 A-5V P108-11
69 AUD MON P111-7
70 AUD GND P111-12
71 AUD VDD P111-11
72 AUD-C P111-13
73 12V SAVE P112-3
74 P-GND P112-1
75 12V IN P113-3
76 12V OUT P112-4
77 G-TALLY
78 12V OFF P112-5
79
R1 0
P120 VJP27418016
1 HD J107-47
2 VD J107-48
3 Y-B9 J107-27
4 Y-B8 J107-28
5 Y-B7 J107-29
6 Y-B6 J107-30
7 Y-B5 J107-31
8 Y-B4 J107-32
9 Y-B3 J107-33
10 Y-B2 J107-34
11 Y-B1 J107-36
12 Y-B0 J107-37
13 GND J107-67
14 CLK4 J107-42
15 GND J107-67
16 CLK8 J107-43
P121 VJP27148022
1 PR-B9 J107-3
2 PR-B8 J107-4
3 PR-B7 J107-5
4 PR-B6 J107-12
5 PR-B5 J107-15
6 PR-B4 J107-17
7 PR-B3 J107-20
8 PR-B2 J107-21
9 PR-B1 J107-22
10 PR-B0 J107-23
11 PB-B9 J107-40
12 PB-B8 J107-41
13 PB-B7 J107-54
14 PB-B6 J107-55
15 PB-B5 J107-56
16 PB-B4 J107-57
17 PB-B3 J107-58
18 PB-B2 J107-59
19 PB-B1 J107-60
20 PB-B0 J107-61
21 D OUT J107-52
22 GND J107-67
J1
J2
J3
P112 VJP27418008
1 P GND J107-74
2
3 12V SAVE J107-73
4 12V OUT J107-76
5 12V OUT J107-76
6 12V OFF J107-78
7 12V OFF J107-78
8
P113
1 P GND J107-74
2 P GND
3 12V IN J107-75
4 12V IN
P109 VJP27398005
1 MIC GND J107-35
2 MIC(H) J107-63
3 MIC(C) J107-10
4 A9V J107-65
5 A GND J107-67
MIC POWER
C2-TP C2-E
J2 ○ 9V ---
J3 --- ○ 48V

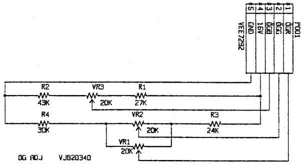
MIC SCHEMATIC DIAGRAM
FOR NTSC MODEL


R63
300
R64
300
P62
① POWER
② GND
③ (H)
④ (C)
C62
16V330
P61
H ①
C ②
GND ③
C61
16V15
R61
4700
R62
1000
1
2
3
SW61
VSS0157
1 OFF
2 ON
3 ON −15dB

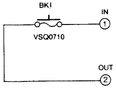
MIC SCHEMATIC DIAGRAM
FOR PAL MODEL


R1
220
① +48V
R4
1200
R2
1200
C1
63/18
HFE
GND ①
② GND
R5
5600
HOT ②
C2
63/18
HFE
③ HOT
R6
47K
R3
5600
COLD ③
C3
63/18
HFE
④ COLD
R7
47K
SW61
VSS0157
1 OFF
2 ON
3 ON −15dB

OG ADJ SCHEMATIC DIAGRAM


P001
VEE7292
1 OGR
2 OGG
3 OGB
4 16V
5 GND
R2
43K
VR3
20K
R1
27K
R4
30K
VR2
20K
R3
24K
VR1
20K
OG ADJ VJB20340

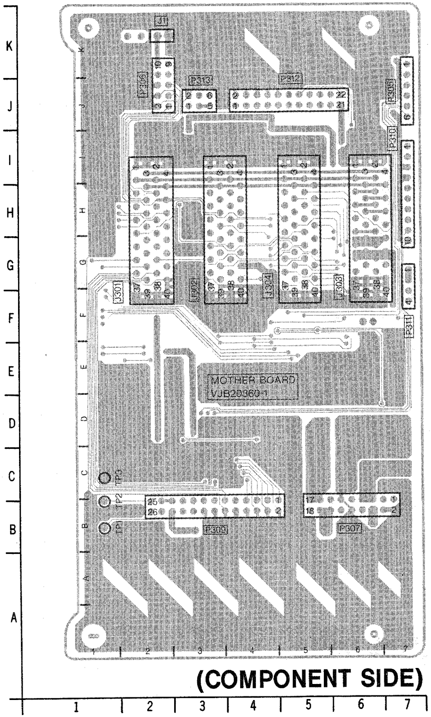
BRAKER SCHEMATIC DIAGRAM


BK1
VSQ0710
IN
①
OUT
②

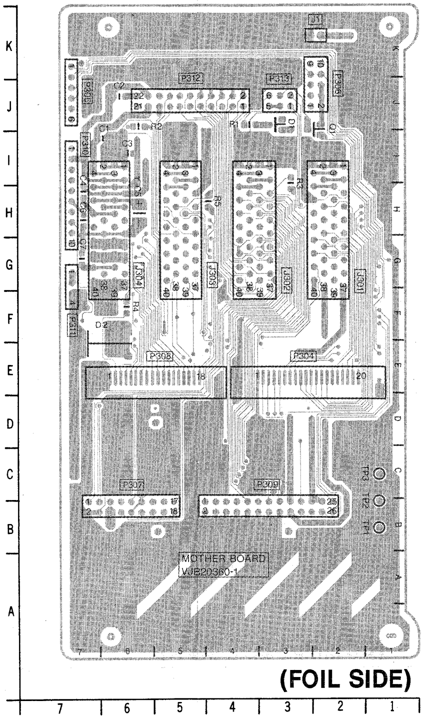
MOTHER P.C.BOARD (VEP20360B)

MOTHER P.C. BOARD

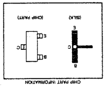
COMPONENT SIDE		SOLDER SIDE	
TEST POINT		TRANSISTOR	
TP1	B-1	Q1	J-2
TP2	B-1		
TP3	C-1		
P305	J-7		
P306	J-2		
P307	B-6		
P309	B-3		
P310	H-7		
P311	F-7		
P312	J-5		
P313	J-3		
J1	K-2		
J301	G-2		
J302	G-3		
J303	G-6		
J304	G-5		


K
J
I
H
G
F
E
D
C
B
A
J1
P306
P313
P312
P305
P310
P311
J301
J302
J304
J303
MOTHER BOARD
VJB20360-1
TP1
TP2
TP3
P309
P307
1
2
3
4
5
6
7

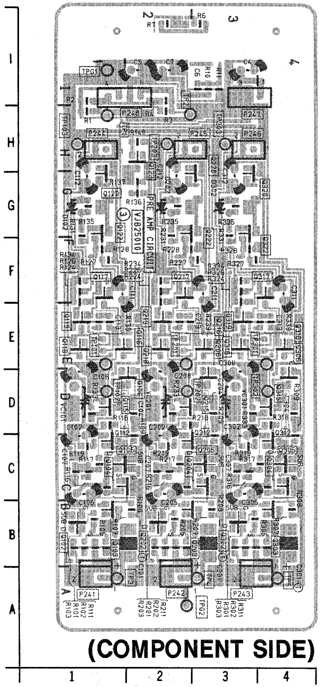
(COMPONENT SIDE)


K
J
I
H
G
F
E
D
C
B
A
J1
P306
P313
P312
P305
P310
P311
Q1
D1
D2
R1
R2
R3
R4
R5
C1
C2
C3
J301
J302
J303
J304
P308
P304
P307
P309
TP1
TP2
TP3
MOTHER BOARD
VJB20360-1
7
6
5
4
3
2
1

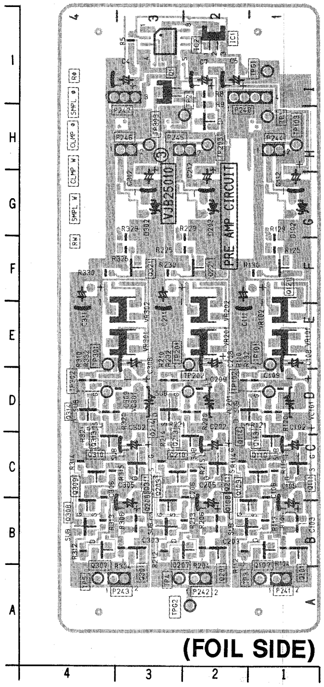
(FOIL SIDE)


(CHIP PART)
(SILK)
CHIP PART INFORMATION

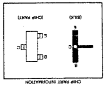
PRE AMP P.C.BOARD (VEP25010C)


I
H
G
F
E
D
C
B
A
1
2
3
4
PRE AMP CIRCUIT
VJB25010
TPG1
TPG2
P241
P242
P243
P244
P245
P246
P247
P248

(COMPONENT SIDE)


I
H
G
F
E
D
C
B
A
4
3
2
1
PRE AMP CIRCUIT
VJB25010
IC1
IC2
SMPL
CLMP
P241
P242
P243

(FOIL SIDE)



PREAMP P. C. BOARD

COMPONENT SIDE

TRANSISTOR	
Q102	B-1
Q103	B-1
Q104	C-1
Q105	C-1
Q106	D-2
Q112	C-1
Q115	D-1
Q116	E-2
Q117	F-1
Q118	E-1
Q119	E-1
Q120	G-1
Q122	G-1
Q123	H-2
Q202	B-2
Q203	B-2
Q204	C-2
Q205	C-3
Q206	D-3
Q212	C-2
Q215	D-2
Q216	E-3
Q217	F-2
Q218	E-2
Q219	E-2
Q220	G-3
Q222	G-2
Q302	B-3
Q303	B-4
Q304	C-4
Q305	C-4
Q306	D-4
Q312	C-4
Q315	D-4
Q316	E-4
Q317	F-4
Q318	E-3
Q319	E-3
Q320	G-3
Q322	G-3

TEST POINT	
TP1	H-1
TP2	H-2
TP3	A-1
TP4	A-3
TP5	A-4
TP101	E-1
TP102	D-1
TP103	H-1
TP201	E-2
TP202	D-2
TP203	H-2
TP301	E-4
TP302	D-4
TP303	H-3
TPG1	I-1
TPG2	A-2

ADJUSTMENT	
VC101	D-1
VC201	D-2
VC301	D-3

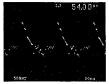
CONNECTOR	
P241	A-1
P242	A-2
P243	A-3
P244	H-1
P245	H-2
P246	H-3
P247	I-3
P248	I-2

FOIL SIDE

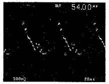
TRANSISTOR	
Q1	I-3
Q101	B-1
Q107	B-1
Q108	B-2
Q109	B-2
Q110	C-1
Q111	C-1
Q113	C-1
Q114	D-2
Q121	F-1
Q201	B-2
Q207	B-2
Q208	B-3
Q209	B-3
Q210	C-3
Q211	C-2
Q213	C-2
Q214	D-3
Q221	F-2
Q301	B-3
Q307	B-4
Q308	B-4
Q309	B-4
Q310	C-4
Q311	C-3
Q313	C-4
Q314	D-4
Q321	F-3

INTEGRATED CIRCUIT	
IC1	I-2
IC2	I-3

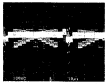
PRE AMP WAVEFORMS



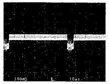
TP3
500mV 20nsec
IRIS OPEN



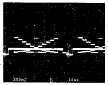
TP4
500mV 20nsec
IRIS OPEN



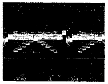
TP101
100mV 10μsec
LPF ON



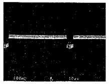
TP102
100mV 10μsec
LPF ON



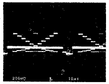
TP103
200mV 10μsec
LPF ON



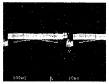
TP201
100mV 10μsec
LPF ON



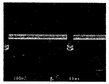
TP202
100mV 10μsec
LPF ON



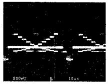
TP203
200mV 10μsec
LPF ON



TP301
100mV 10μsec
LPF ON



TP302
100mV 10μsec
LPF ON



TP303
200mV 10μsec
LPF ON

REVERSE SIDE MOTHER P.C.BOARD

PRE PROCESS P.C.BOARD (VEP23105A)

PREPRO P.C.BOARD

COMPONENT SIDE

TRANSISTOR	
Q1	E-2
Q6	I-2
Q102	F-5
Q104	G-5
Q107	G-3
Q108	G-3
Q110	G-3
Q112	G-5
Q113	F-5
Q202	D-5
Q204	D-5
Q207	D-3
Q208	D-3
Q210	E-3
Q211	D-2
Q212	E-5
Q213	D-5
Q302	A-5
Q304	B-5
Q307	A-3
Q308	B-3
Q310	B-3
Q312	B-5

INTEGRATED CIRCUIT	
IC1	B-1
IC101	G-5
IC102	H-4
IC201	E-5
IC202	F-4
IC301	B-5
IC302	C-4

TEST POINT	
TP1	I-3
TP100	F-5
TP101	H-5
TP200	E-5
TP201	D-5
TP300	A-5
TP301	C-5

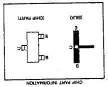
ADJUSTMENT	
VR100	F-4
VR101	H-5
VR102	H-4
VR103	F-5
VR104	H-3
VR105	H-3
VR200	D-4
VR201	E-5
VR202	E-4
VR203	D-5
VR204	E-3
VR300	A-4
VR301	C-5
VR302	B-4
VR303	A-5
VR304	C-3
VR305	C-3

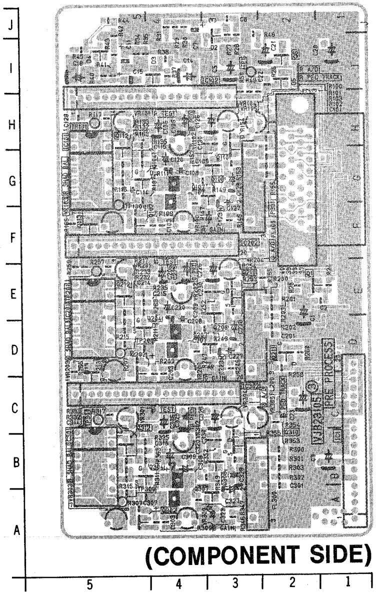
CONNECTOR	
P301	G-2

FOIL SIDE

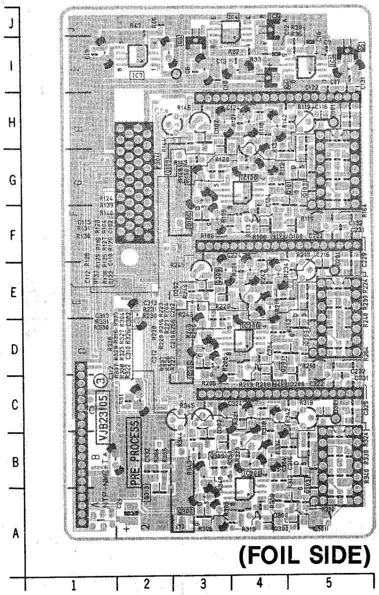
TRANSISTOR	
Q3	I-3
Q4	I-4
Q5	I-5
Q100	F-4
Q101	G-5
Q103	G-5
Q106	F-3
Q109	H-3
Q200	C-4
Q201	D-5
Q203	D-5
Q206	D-3
Q209	E-3
Q300	A-4
Q301	A-5
Q303	B-5
Q306	A-3
Q309	B-3
Q313	A-2

INTEGRATED CIRCUIT	
IC4	J-4
IC5	I-5
IC6	J-4
IC7	I-2
IC100	G-4
IC200	D-4
IC300	B-4



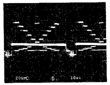


(COMPONENT SIDE)

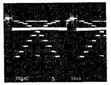


(FOIL SIDE)

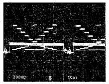
PRE PROCESS WAVEFORMS



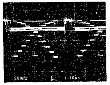
TP100
200mV 10μsec
CPF ON



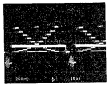
TP101
200mV 10μsec
CPF ON



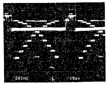
TP200
200mV 10μsec
LPF ON



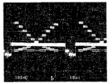
TP201
200mV 10μsec
LPF ON



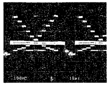
TP300
200mV 10μsec
CPF ON



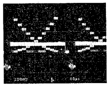
TP301
200mV 10μsec
CPF ON



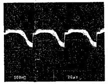
P301 ⑨
100mV 10μsec



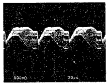
P301 ⑩
100mV 10μsec



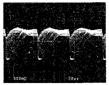
P301 ⑪
100mV 10μsec



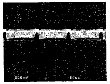
P301 ⑬
500mV 20μsec



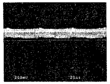
P301 ⑭
500mV 20μsec



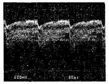
P301 ⑮
500mV 20μsec



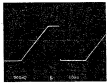
P301 ⑯
200mV 20μsec



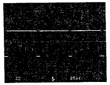
P301 ⑰
200mV 20μsec



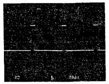
P301 ⑱
200mV 20μsec



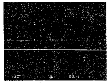
P301 ㉑
500mV 10μsec
SYNC SW4 ON
TEST MODE



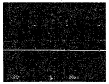
P301 ㉙
2V 20μsec



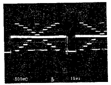
P301 ㉚
2V 20μsec



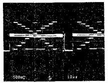
P301 ㉛
2V 20μsec



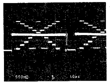
P301 ㉜
2V 20μsec



P301 ㉝
500mV 10μsec

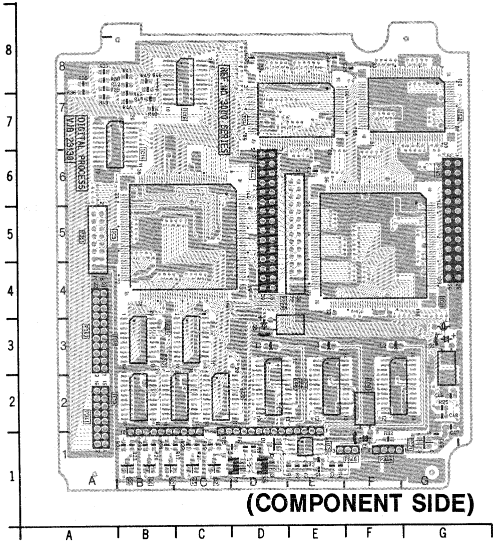


P301 ㉞
500mV 10μsec

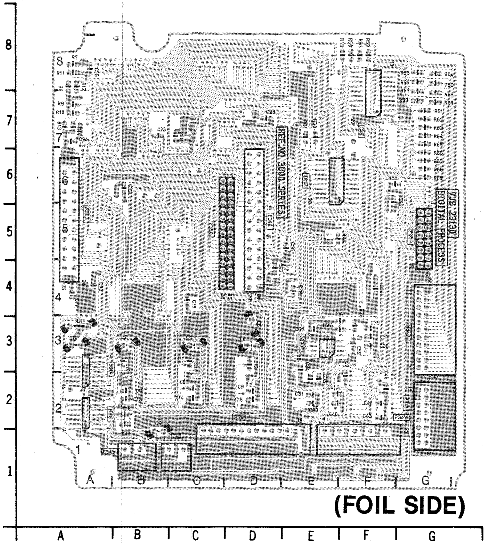


P301 ㉟
500mV 10μsec

DIGITAL PROCESS P.C.BOARD (VEP23130A)


8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
REF.NO 3000 SERIES
DIGITAL PROCESS
VJB-23130

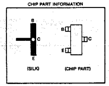
(COMPONENT SIDE)


8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
REF.NO 3000 SERIES
VJB-23130
DIGITAL PROCESS

(FOIL SIDE)

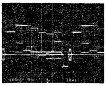
DIGITAL PROCESS
P.C.BOARD

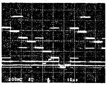
COMPONENT SIDE		FOIL SIDE	
TRANSISTOR		INTEGRATED CIRCUIT	
Q3001	D-1	IC3014	A-3
Q3002	C-1	IC3015	A-2
Q3003	B-1	IC3017	E-6
Q3004	B-1	IC3018	F-7
Q3005	C-1	IC3020	E-3
Q3006	B-1		
INTEGRATED CIRCUIT			
IC3001	F-5		
IC3002	G-7		
IC3003	C-5		
IC3004	D-7		
IC3005	E-1		
IC3006	D-2		
IC3007	E-2		
IC3008	F-2		
IC3009	C-2		
IC3010	C-3		
IC3011	B-3		
IC3012	C-2		
IC3013	B-2		
IC3016	C-8		
IC3019	B-7		
IC3021	G-1		
CONNECTOR			
P3341	A-2		
P3342	A-3		
P3343	G-5		
P3344	D-5		
P3345	F-1		
P3346	D-2		
P3347	B-2		
P3348	F-1		
P3350	E-5		
P3351	A-5		

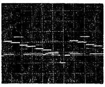

CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

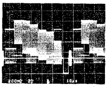
REVERSE SIDE PRE PROCESS
P.C.BOARD

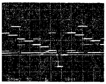
ENCODER WAVEFORMS (NTSC)

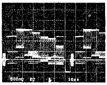

TP2
500mV 10μsec

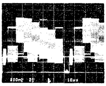

P3302 ⑭
200mV 10μsec


TP7
500mV 10μsec

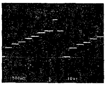

P3302 ㉗
200mV 10μsec

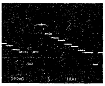

TP8
500mV 10μsec

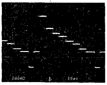

P3302 ㊱
500mV 10μsec

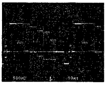

P3302 ⑪
100mV 10μsec

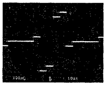
ENCODER WAVEFORMS (PAL)

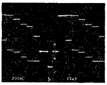

TP1
500mV 10μsec

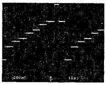

TP8
500mV 10μsec

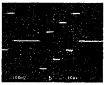

P302 ㉟
200mV 10μsec

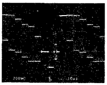

TP2
500mV 10μsec

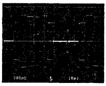

P302 ⑫
100mV 10μsec

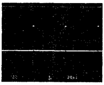

P302 ㊱
200mV 10μsec

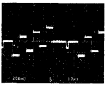

TP3
200mV 10μsec

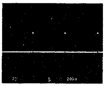

P302 ⑬
100mV 10μsec

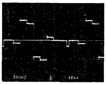

P302 ㊲
200mV 10μsec

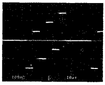

TP4
200mV 10μsec

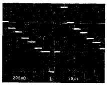

P302 ⑲
2V 20μsec

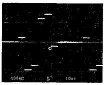

TP5
200mV 10μsec


P302 ⑳
2V 20μsec


TP6
200mV 10μsec


P302 ㉝
100mV 10μsec


TP7
200mV 10μsec


P302 ㉞
100mV 10μsec

ENCODER P.C.BOARD (VEP23106A) FOR NTSC MODEL
(VEP23106B) FOR PAL MODEL

ENCODER P. C. BOARD

COMPONENT SIDE

TRANSISTOR	
Q6	I-3
Q11	G-3
Q13	F-4
Q14	F-4
Q15	B-2
Q18	E-4
Q19	E-5
Q22	I-2
Q24	A-2
Q29	B-5
Q34	E-1
Q35	D-1
Q36	D-1
Q37	D-4
Q40	D-2
Q41	D-2

INTEGRATED CIRCUIT	
IC1	G-5
IC3	C-6
IC6	A-6
IC9	C-1
IC12	B-3

TEST POINT	
TP1	H-4
TP2	G-4
TP3	G-3
TP4	F-5
TP5	C-5
TP6	B-5

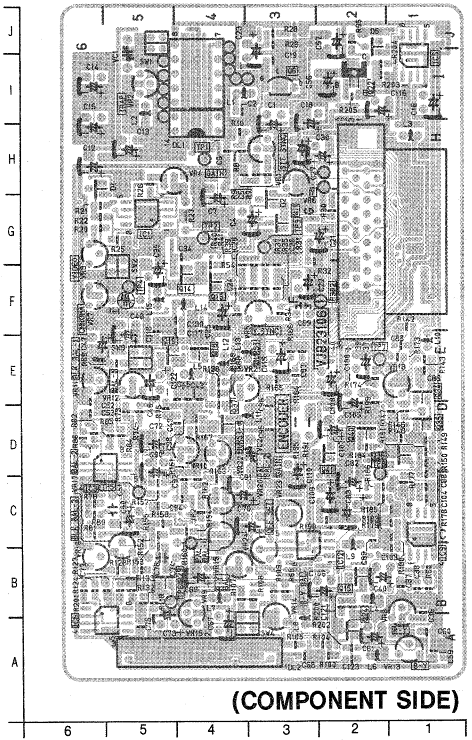
ADJUSTMENT	
VR1	H-3
VR2	I-5
VR3	G-6
VR4	H-4
VR5	F-3
VR6	H-3
VR7	F-6
VR8	A-1
VR9	B-4
VR10	D-4
VR11	E-6
VR12	E-5
VR13	A-1
VR14	A-3
VR15	A-4
VR16	B-6
VR17	B-5
VR18	E-1
VR19	B-4
VR20	C-4
VR21	E-3
VR22	D-4
VR23	C-3
VR24	B-3
VC1	I-5
VC2	D-3

CONNECTOR	
P302	G-2

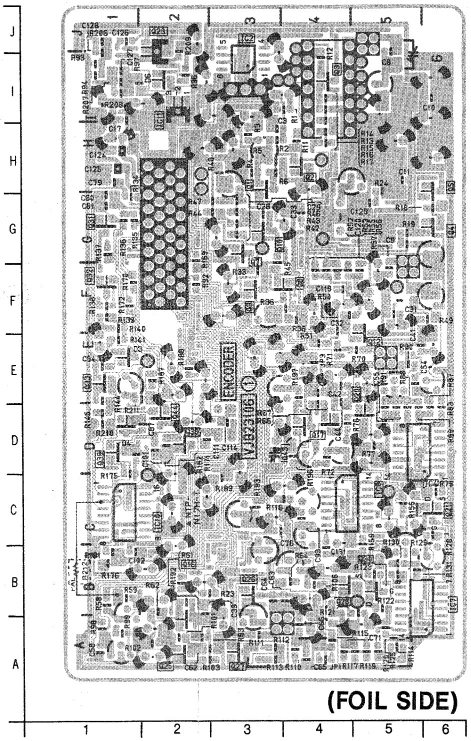
FOIL SIDE

TRANSISTOR	
Q1	H-3
Q2	H-4
Q3	I-4
Q4	G-6
Q5	G-6
Q7	G-3
Q8	F-4
Q9	F-3
Q10	G-3
Q12	E-5
Q16	A-2
Q17	D-4
Q20	D-5
Q21	C-6
Q23	J-2
Q25	A-2
Q26	B-3
Q27	A-3
Q28	B-4
Q30	B-5
Q31	G-1
Q32	F-1
Q33	E-1
Q38	D-2
Q39	D-1
Q43	D-4
Q44	D-2

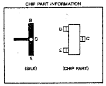
INTEGRATED CIRCUIT	
IC2	I-3
IC4	D-5
IC7	B-6
IC8	C-4
IC10	C-1
IC11	I-2


J
I
H
G
F
E
D
C
B
A
6
5
4
3
2
1
VJB23106
ENCODER

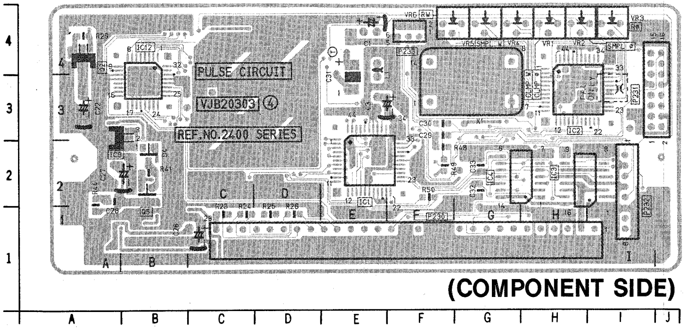
(COMPONENT SIDE)


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
ENCODER
VJB23106

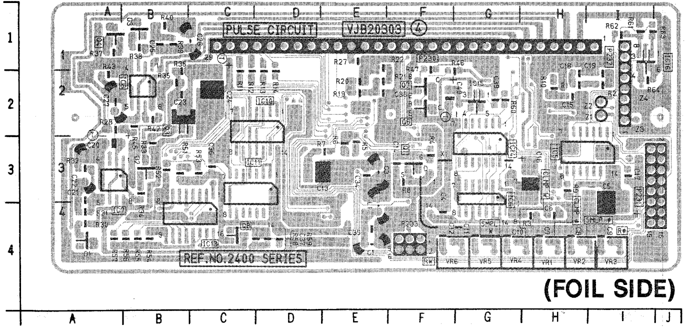
(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

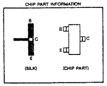
PULSE P.C.BOARD(VEP20303D) FOR NTSC MODEL (VEP20303G) FOR PAL MODEL


PULSE CIRCUIT
VJB20303 ④
REF.NO.2400 SERIES
IC12
IC1
IC2
IC3
IC4
IC5
X1
VR6
VR5
VR4
VR1
VR2
VR3
RW
SMPL
P230
P231
P232
P233
1
2
3
4
A
B
C
D
E
F
G
H
I
J

(COMPONENT SIDE)


PULSE CIRCUIT
VJB20303 ④
REF.NO.2400 SERIES
IC11
IC13
IC10
P230
P231
P232
VR6
VR5
VR4
VR1
VR2
VR3
RW
1
2
3
4
A
B
C
D
E
F
G
H
I
J

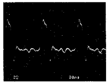
(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

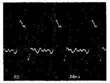
PULSE P.C.BOARD

COMPONENT SIDE		FOIL SIDE	
TRANSISTOR		TRANSISTOR	
Q2402	A-4	Q2401	F-3
Q2405	B-2	Q2403	B-2
		Q2404	A-1
INTEGRATED CIRCUIT		Q2406	F-2
		Q2407	F-2
IC2401	E-2	Q2408	C-4
IC2402	H-3		
IC2403	H-2	INTEGRATED CIRCUIT	
IC2404	G-2		
IC2412	B-3	IC2405	I-3
		IC2406	G-3
ADJUSTMENT		IC2407	A-3
VR2401	H-4	IC2408	B-2
VR2402	H-4	IC2410	D-2
VR2403	I-4	IC2411	D-3
VR2404	G-4	IC2413	C-4
VR2405	G-4	IC2414	G-3
VR2406	F-4	IC2415	G-2
		IC2416	I-1
CONNECTOR			
P230	F-1		
P231	I-3		
P232	I-2		
P233	F-4		

PULSE WAVEFORMS

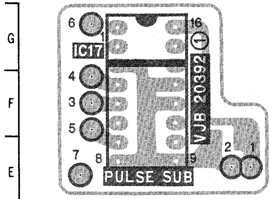


TP1
2V 20nsec

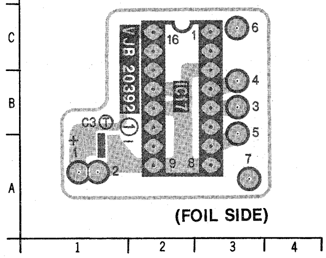


TP2
2V 20nsec

PULSE SUB (VEP20392A) FOR PAL MODEL


IC17
VJB 20392 ①
PULSE SUB
6
16
1
4
3
5
7
8
9
2
1
G
F
E

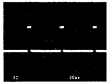
(COMPONENT SIDE)

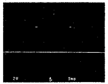

VJB 20392 ①
IC17
C3
16
1
6
4
3
5
7
9
8
2
1
D
C
B
A
1
2
3
4

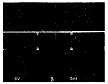
(FOIL SIDE)

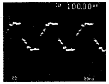
REVERSE SIDE ENCODER P.C.BOARD

CCD DRIVE & CCD WAVEFORMS

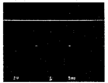

J220 ⑩
2V 20μsec

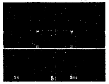

J220 ⑳ ㉑
2V 5msec

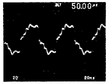

J221,J222,J223, ① ④
5V 5msec



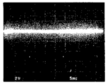
J220 ⑪
2V 20nsec

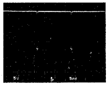

J220 ㉒ ㉓
2V 5msec

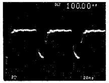

J221,J222,J223 ② ③
5V 5msec



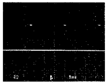
J220 ⑭
2V 20nsec

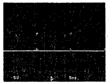

J220 ㉔ ㉕
2V 5msec

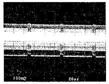

J221,J222,J223 ⑥ ⑧
5V 5msec

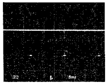


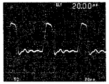
J220 ⑯
2V 20nsec
Delay


J220 ㉖ ㉘
2V 5msec
LPF ON

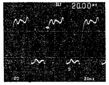

J221,J222,J223 ⑦ ⑨
5V 5msec


J220 ⑰
100mV 20μsec


J220 ㉗ ㉙
2V 5msec
LPF ON



J221,J222,J223 ⑭
5V 20nsec

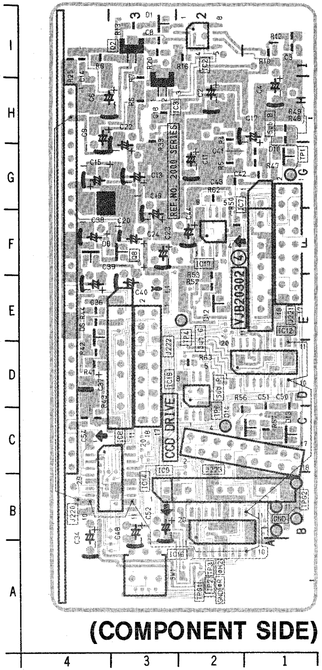


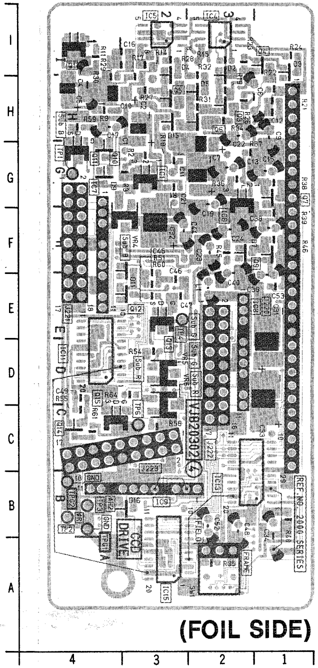
J221,J222,J223 ⑯ ⑰

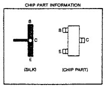
CCD DRIVE P. C. BOARD

COMPONENT SIDE		FOIL SIDE	
TRANSISTOR		TRANSISTOR	
Q2002	I-3	Q2001	I-1
Q2008	F-3	Q2003	H-3
		Q2004	I-4
INTEGRATED CIRCUIT		Q2005	H-2
		Q2006	H-3
IC2002	I-2	Q2007	G-4
IC2003	H-3	Q2009	F-4
IC2007	F-1	Q2010	G-1
IC2008	D-3	Q2011	G-1
IC2009	B-2	Q2012	E-2
IC2012	D-1	Q2013	E-2
IC2014	B-3	Q2014	C-1
IC2016	B-2	Q2015	C-1
IC2017	F-2		
IC2018	D-2	INTEGRATED CIRCUIT	
TEST POINT		IC2001	G-2
TP2001	G-1	IC2004	I-3
TP2002	B-1	IC2005	I-2
TP2003	B-1	IC2006	G-3
TP2004	E-2	IC2011	D-1
TP2006	C-2	IC2013	B-4
		IC2015	A-2
TPG2001	B-1		
TPG2002	B-1	ADJUSTMENT	
		VR2005	D-2
		VR2006	D-2

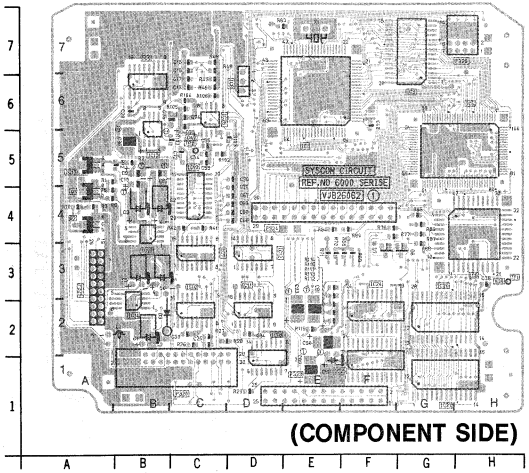
CCD DRIVE P.C.BOARD (VEP20302A) FOR NTSC MODEL
(VEP20302C) FOR PAL MODEL


I
H
G
F
E
D
C
B
A
4
3
2
1
VJB20302 ④
CCD DRIVE
REF.NO. 2000 SERIES
J220
J221
J222
J223
TP1
TP2
TP3
TP4
TP6
TPG1
TPG2
GND
(COMPONENT SIDE)

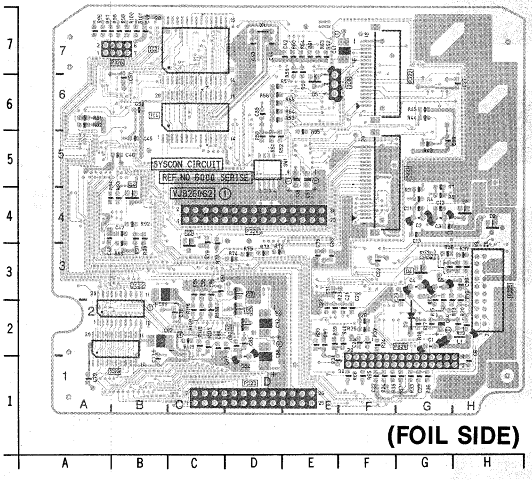

I
H
G
F
E
D
C
B
A
4
3
2
1
VJB20302 ④
CCD DRIVE
REF.NO. 2000 SERIES
J221
J222
J223
IC1
IC4
IC5
IC6
IC9
IC11
IC13
IC15
FIELD
FRAME
GND
(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

SYSTEM CONTROL P.C.BOARD (VEP26062B) FOR NTSC MODEL
(VEP26062C) FOR PAL MODEL


SYSCON CIRCUIT
REF.NO 6000 SERISE
VJB26062 ①
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H

(COMPONENT SIDE)

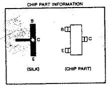

SYSCON CIRCUIT
REF.NO 6000 SERISE
VJB26062 ①
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H

(FOIL SIDE)

SYSCON P.C.BOARD

COMPONENT SIDE		SOLDER SIDE	
TRANSISTOR		TRANSISTOR	
Q1	A-4	Q3	C-4
Q2	A-4	Q4	B-4
		Q5	D-2
INTEGRATED CIRCUIT		Q6	D-2
		Q7	D-3
IC1	E-6		
IC3	G-7	INTEGRATED CIRCUIT	
IC5	H-5		
IC6	H-4	IC2	C-7
IC7	C-3	IC4	C-6
IC8	D-6	IC22	B-2
IC9	B-6	IC23	B-2
IC10	C-2		
IC11	D-2	CONNECTOR	
IC12	D-3	P321	F-5
IC13	B-5	P322	F-7
IC14	B-2		
IC15	B-4		
IC17	A-5		
IC18	D-1		
IC19	C-4		
IC20	G-2		
IC21	G-1		
IC24	F-2		
IC25	F-1		
IC26	C-6		
TEST POINT			
TP1	H-3		
TP2	C-5		
CONNECTOR			
P320	C-1		
P323	E-1		
P324	E-4		
P325	A-3		
P326	H-7		

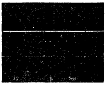
CHIP PART INFORMATION

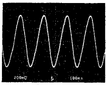

B
C
E
(SILK)
(CHIP PART)

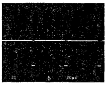
SYNC SUB P.C.BOARD

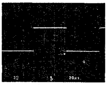
(VEP20313A) FOR NTSC MODEL
(VEP20313B) FOR PAL MODEL

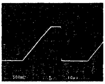
SYNC WAVEFORMS

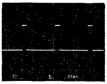

TP1
2V 5msec

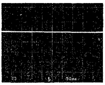

P303 ㉖
200mV 100nsec

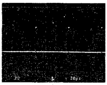

TP2
2V 20μsec

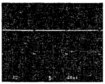

P303 ㉗
2V 20μsec

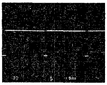

P303 ⑰
500mV 10μsec

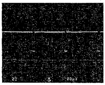

P303 ㉘
2V 20μsec

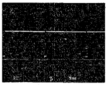

P303 ⑱
2V 50msec

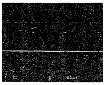

P303 ㉚
2V 20μsec

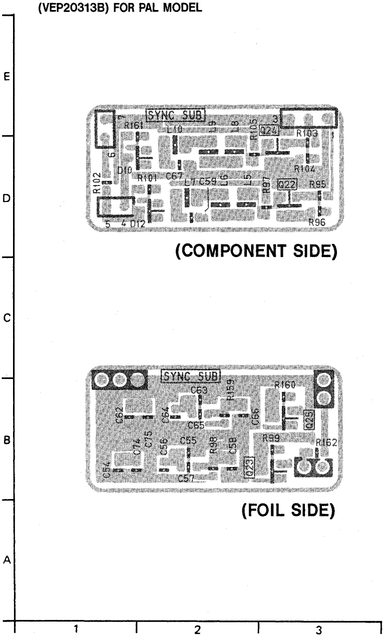

P303 ㉒
2V 20μsec


P303 ㉞
2V 5msec


P303 ㉓
2V 20μsec

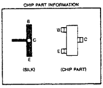

P303 ㊲
2V 5msec


P303 ㉕
2V 20μsec


E
D
C
B
A
1
2
3
SYNC SUB
7
R161
L10
L9
L8
R105
Q24
3
R103
1
6
D10
R101
C67
L7
C59
L6
L5
R97
Q22
R95
R104
R102
5
4
D12
R96
SYNC SUB
C63
R159
R160
C62
C64
C65
C66
Q25
C74
C75
C56
C55
R98
C58
R99
R162
C54
Q23
C57

(COMPONENT SIDE)

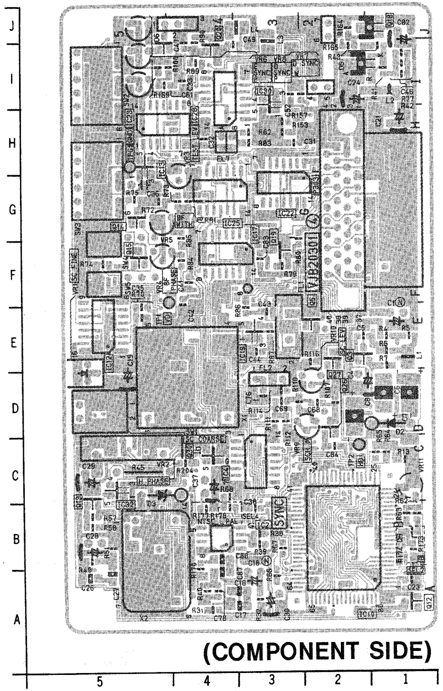
(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SILK)
B
C
E
(CHIP PART)

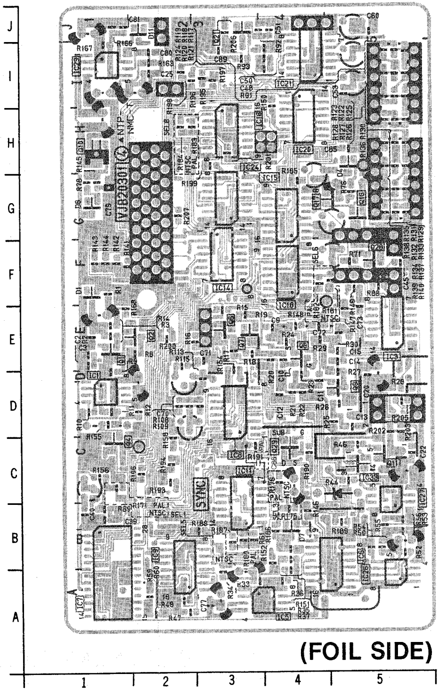
SYNC P.C.BOARD (VEP20301A) FOR NTSC MODEL
(VEP20301B) FOR PAL MODEL

SYNC P.C.BOARD

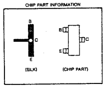
COMPONENT SIDE				FOIL SIDE	
TRANSISTOR		CONNECTOR		TRANSISTOR	
Q3	E-2	P303	G-2	Q1	E-1
Q5	E-2			Q2	E-1
Q12	A-1			Q4	C-1
Q13	B-5			Q6	E-3
Q14	G-5			Q7	E-3
Q15	F-5			Q8	E-4
Q18	J-1			Q9	D-5
Q19	F-3			Q10	H-1
Q20	I-4			Q11	C-5
Q26	D-2			Q16	G-5
Q27	E-2			Q17	G-5
Q30	C-4			Q21	J-3
				Q28	F-5
INTEGRATED CIRCUIT				Q29	C-4
IC2	B-4			INTEGRATED CIRCUIT	
IC4	C-3				
IC10	B-2			IC1	D-1
IC12	E-5			IC3	E-5
IC13	H-5			IC5	A-3
IC17	F-4			IC6	B-5
IC19	E-3			IC7	A-1
IC22	G-3			IC8	D-3
IC23	H-5			IC9	A-2
IC25	G-4			IC11	B-3
IC28	I-4			IC14	F-3
IC30	H-3			IC15	G-4
IC32	C-5			IC16	H-3
				IC18	F-4
TEST POINT				IC20	H-4
TP1	F-4			IC21	I-4
TP2	C-2			IC24	G-3
				IC26	A-5
TPG1	H-5			IC27	B-5
				IC29	I-1
ADJUSTMENT				IC33	C-5
VR1	D-5				
VR2	C-5				
VR4	F-5				
VR5	G-5				
VR6	I-5				
VR7	J-5				
VR8	I-5				
VR9	D-2				
VR10	D-2				
VR11	C-1				


J
I
H
G
F
E
D
C
B
A
5
4
3
2
1
VJB20301
SYNC
H.PHASE
SC COARSE
TEST LEVEL
SC LEV

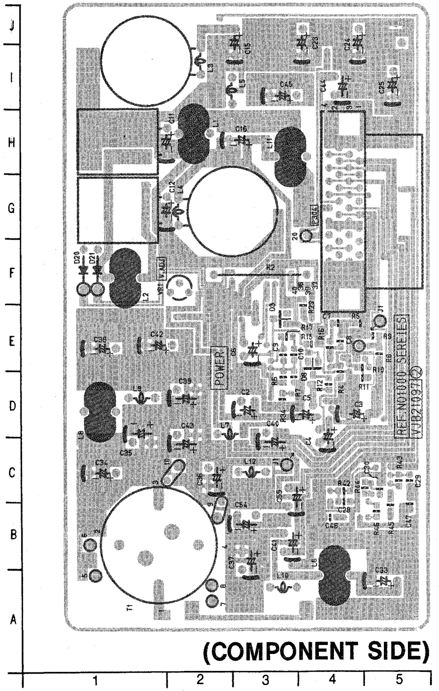
(COMPONENT SIDE)


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
VJB20301
SYNC
NTSC
PAL

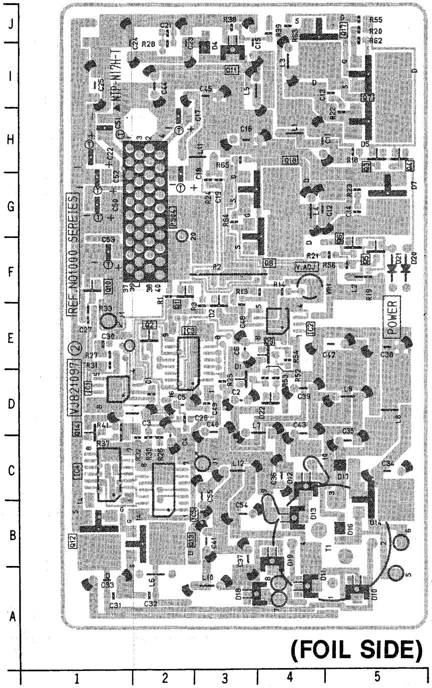
(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SLK)
(CHIP PART)

POWER P.C.BOARD (VEP21097A) FOR NTSC MODEL
(VEP21097B) FOR PAL MODEL


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
POWER
REF.N01000 SEREIES
VJB21097②
P304
V.ADJ
VR1
T1

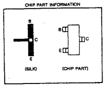
(COMPONENT SIDE)


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
POWER
REF.N01000 SEREIES
VJB21097②
NIP-N17H-T
P304
V.ADJ
VR1

(FOIL SIDE)

POWER P.C.BOARD

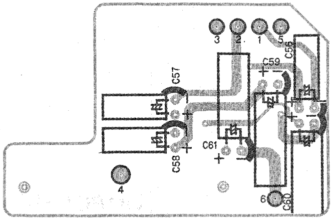
COMPONENT SIDE		FOIL SIDE	
ADJUSTMENT		TRANSISTOR	
VR1	F-5	Q1	E-2
		Q2	E-2
CONNECTOR		Q3	G-5
P304	G-2	Q4	G-5
		Q5	F-5
		Q6	F-5
		Q7	I-5
		Q8	F-4
		Q9	E-4
		Q10	F-1
		Q11	I-3
		Q12	B-1
		Q13	B-2
		Q14	D-1
		Q17	I-5
		Q18	H-4
		INTEGRATED CIRCUIT	
		IC1	D-1
		IC2	F-4
		IC3	E-2
		IC4	C-1
		IC5	B-2


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

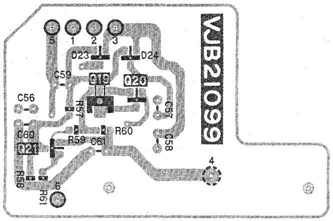
REVERSE SIDE SYNC P.C.BOARD

POWER SUB P.C.BOARD

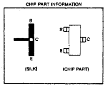
(VEP21099A) FOR PAL MODEL


3
2
1
5
C56
C59
C57
C58
C61
4
6
C60

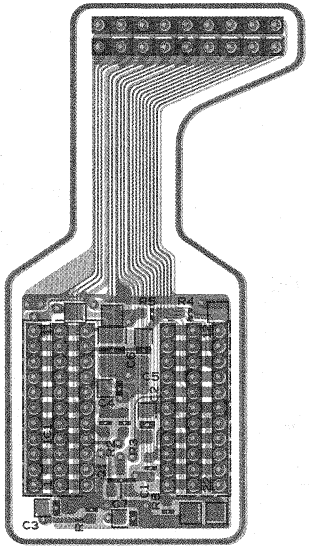
(COMPONENT SIDE)


5
1
2
3
VJB21099
D23
D24
C59
Q19
Q20
C56
R57
C57
C60
R59
C61
R60
C58
Q21
R58
R61
4
6

(FOIL SIDE)

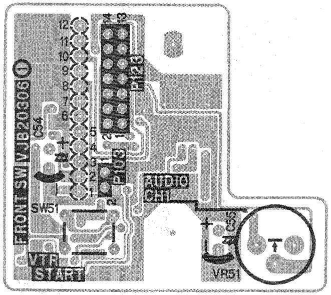

CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

CCD MOUNT P.C.BOARD (VEP20354A)

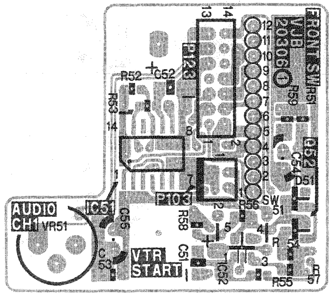

R5
R4
C6
C5
IC1
C3
C7
C1
R1
R2

(FOIL SIDE)

FRONT SW P.C.BOARD (VEP20306A)

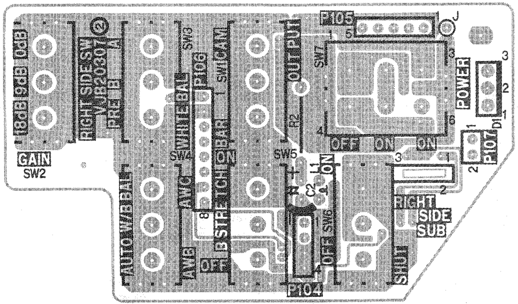

12
11
10
9
8
7
6
5
4
3
2
1
14
13
P123
FRONT SW VJB20306①
C54
P103
AUDIO CH1
SW51
C55
VTR START
VR51

(COMPONENT SIDE)

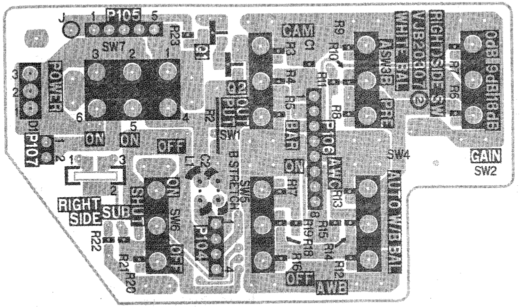

13
14
12
11
10
9
8
7
6
5
4
3
2
1
VJB 20306①
FRONT SW
R51
R52
C52
P123
R53
R59
Q52
C54
D51
P103
D55
SW 51
AUDIO CH1
IC51
VR51
C55
R58
C51
C53
VTR START
IC52
R55
R57
R54

(FOIL SIDE)

RIGHT SIDE SW P.C.BOARD (VEP20307A)

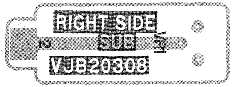

0dB
9dB
18dB
GAIN
SW2
RIGHT SIDE SW
VJB20307
PRE B
A
SW3
WHITE BAL
P106
SW1 CAM
BAR
ON
SW4
AWC
B STRETCH
AUTO W/B BAL
AWB
OFF
OUTPUT
SW7
P105
POWER
R2
SW5
OFF
ON
ON
P107
D1
L1
C2
SW6
OFF
RIGHT SIDE SUB
SHUT
P104

(COMPONENT SIDE)

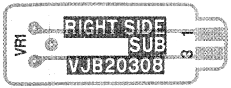

P105
SW7
R23
Q1
POWER
D1
P107
ON
ON
OFF
L1
C2
RIGHT SIDE SUB
R22
SHUT
SW6
ON
OFF
P104
R21
R20
Q2
OUTPUT
R2
SW1
B STRETCH
CAM
C1
R3
R4
R5
R9
R10
R11
R8
BAR
ON
R17
P106
AWC
R13
R19
R18
R15
R14
R16
R12
OFF
AWB
WHITE BAL
ASW3B
PRE
VJB20307
RIGHT SIDE SW
R7
R6
0dB
9dB
18dB
SW4
AUTO W/B BAL
GAIN
SW2

(FOIL SIDE)

RIGHT SIDE SUB P.C.BOARD (VEP20308A)

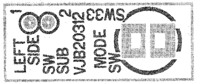

RIGHT SIDE
SUB
VR1
VJB20308

(COMPONENT SIDE)

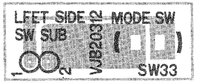

VR1
RIGHT SIDE
SUB
VJB20308

(FOIL SIDE)

LEFT SIDE SUB P.C.BOARD (VEP20912A)

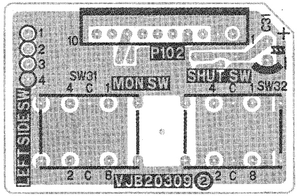

LEFT SIDE SW SUB
VJB20312
MODE SW
SW33

(COMPONENT SIDE)

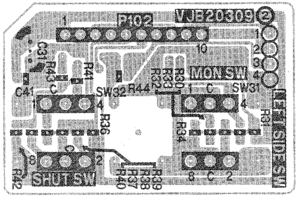

LFET SIDE SW SUB
VJB20312
MODE SW
SW33

(FOIL SIDE)

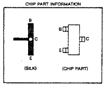
LEFT SIDE SW P.C.BOARD (VEP20309A)


P102
C31
SW31
MON SW
SHUT SW
SW32
LEFT SIDE SW
VJB20309

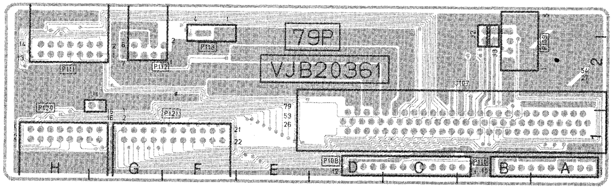
(COMPONENT SIDE)


P102
VJB20309
C31
R43
R41
SW32
R44
R32
R33
R30
MON SW
SW31
C41
R36
R34
R31
LEFT SIDE SW
R42
SHUT SW
R40
R37
R38
R39

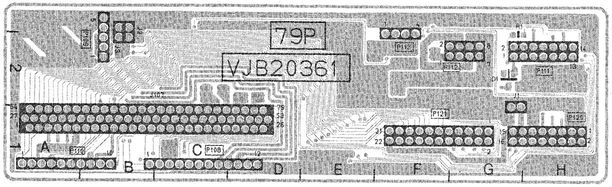
(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

79 P.C.BOARD (VEP20361A) FOR NTSC MODEL
(VEP20361B) FOR PAL MODEL


79P
VJB20361
P111
P112
P113
P120
P121
P108
P110
H
G
F
E
D
C
B
A

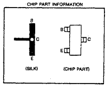
(COMPONENT SIDE)


79P
VJB20361
P109
P113
P112
P111
P121
P120
J107
P110
P108
A
B
C
D
E
F
G
H

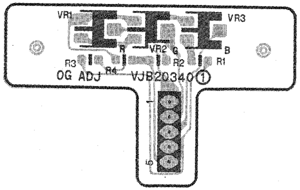
(FOIL SIDE)

79PIN
P.C.BOARD

CONPONENT SIDE	
CONNECTOR	
P108	C-1
P109	B-2
P110	A-1
P111	H-2
P112	G-2
P113	F-2
P120	H-1
P121	F-1
J1	G-2
J2	B-2
J3	B-2
J107	B-1


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

OG ADJ P.C.BOARD (VEP20340B)

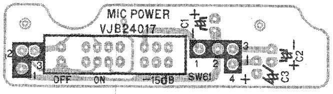

VR1
VR3
VR2
R3
R4
R2
R1
OG ADJ
VJB20340①
1
5

(FOIL SIDE)

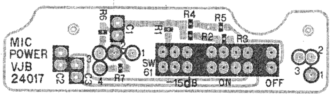
BRAKER P.C.BOARD (VEP20297A)

(FOIL SIDE)

MIC P.C.BOARD
(VEP24011A) FOR NTSC MODEL

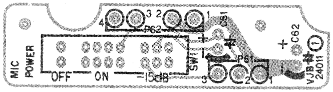

MIC POWER
VJB24017
C1
C2
C3
OFF
ON
-15dB
SW61

(COMPONENT SIDE)

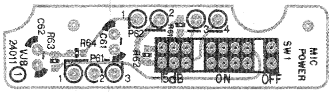

MIC
POWER
VJB
24017
R6
C1
R1
R4
R5
R2
R3
SW
61
R7
C2
C3
-15dB
ON
OFF

(FOIL SIDE)

MIC P.C.BOARD
(VEP24017A) FOR PAL MODEL


P62
C61
C62
MIC POWER
OFF
ON
-15dB
SW1
P61
VJB 24011 ①

(COMPONENT SIDE)


C62
R63
VJB 24011 ①
R64
C61
P61
R61
P62
R62
-15dB
ON
OFF
SW 1
MIC POWER

(FOIL SIDE)

CONTENTS

EXPLODED VIEWS & PARTS LIST

PACKING PARTS-1
FRONT PANEL ASSEMBLY PARTS-2

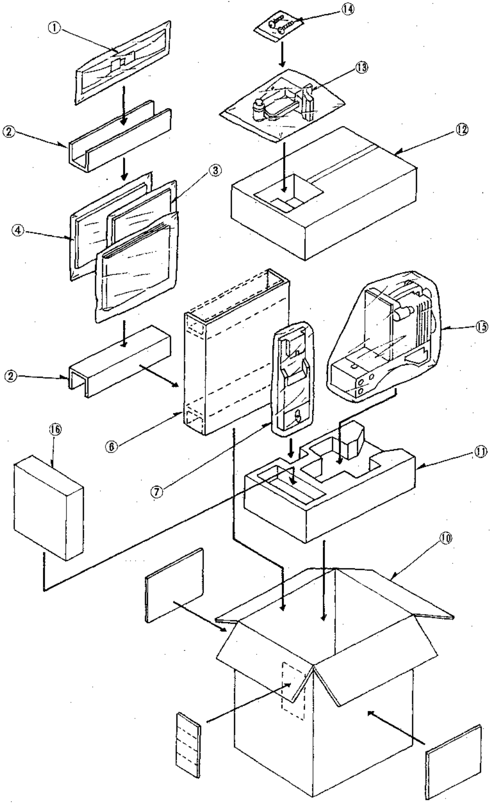
ELECTRICAL PARTS LIST(NTSC)

MOTHER P.C.BOARD (VEP20360B) PARTS-5
PRE AMP P.C.BOARD (VEP25010C) PARTS-5
PRE PROCESS P.C.BOARD (VEP23105A) PARTS-8
DIGITAL PROCESS P.C.BOARD (VEP23130A) PARTS11
ENCODER P.C.BOARD (VEP23106A) PARTS12
PULSE P.C.BOARD (VEP20303D) PARTS-15
PULSE SUB P.C.BOARD (VEP20392A) PARTS-15
CCD DRIVE P.C.BOARD (VEP20302A) PARTS-16
SYSTEM CONTROL P.C.BOARD (VEP26062B) PARTS-18
SYNC P.C.BOARD (VEP20301A) PARTS-20
SYNC SUB P.C.BOARD (VEP20313A) PARTS-20
POWER P.C.BOARD (VEP21097C) PARTS-22
POWER SUB P.C.BOARD (VEP21099A) PARTS-22
CCD MOUNT P.C.BOARD (VEP20354A) PARTS-23
FRONT SW P.C.BOARD (VEP20306A) PARTS-23
RIGHT SIDE SW P.C.BOARD (VEP20307A) PARTS-24
RIGHT SIDE SW SUB P.C.BOARD (VEP20308A) PARTS-24
LEFT SIDE SW P.C.BOARD (VEP20309A) PARTS-24
LEFT SIDE SW SUB P.C.BOARD (VEP20312A) PARTS-24
79P P.C.BOARD (VEP20361A) PARTS-24
MIC P.C.BOARD (VEP24011A) PARTS-25
OG ADJ P.C.BOARD (VEP20340B) PARTS-25
BRAKER P.C.BOARD (VEP20297A) PARTS-25

ELECTRICAL PARTS LIST(PAL)

MOTHER P.C.BOARD (VEP20360B) PARTS-27
PRE AMP P.C.BOARD (VEP25010C) PARTS-27
PRE PROCESS P.C.BOARD (VEP23105A) PARTS-30
DIGITAL PROCESS P.C.BOARD (VEP23130A) PARTS-33
ENCODER P.C.BOARD (VEP23106B) PARTS-34
PULSE P.C.BOARD (VEP20303G) PARTS-37
PULSE SUB P.C.BOARD (VEP20392A) PARTS-37
CCD DRIVE P.C.BOARD (VEP20302C) PARTS-38
SYSTEM CONTROL P.C.BOARD (VEP26062C) PARTS-40
SYNC P.C.BOARD (VEP20301B) PARTS-42
SYNC SUB P.C.BOARD (VEP20313B) PARTS-42
POWER P.C.BOARD (VEP21097B) PARTS-44
POWER SUB P.C.BOARD (VEP21099A) PARTS-44
CCD MOUNT P.C.BOARD (VEP20354A) PARTS-45
FRONT SW P.C.BOARD (VEP20306A) PARTS-45
RIGHT SIDE SW P.C.BOARD (VEP20307A) PARTS-46
RIGHT SIDE SW SUB P.C.BOARD (VEP20308A) PARTS-46
LEFT SIDE SW P.C.BOARD (VEP20309A) PARTS-46
LEFT SIDE SW SUB P.C.BOARD (VEP20312A) PARTS-46
79P P.C.BOARD (VEP20361B) PARTS-47
MIC P.C.BOARD (VEP24017B) PARTS-47
OG ADJ P.C.BOARD (VEP20340B) PARTS-47
BRAKER P.C.BOARD (VEP20297A) PARTS-47

EXPLODED VIEWS & PARTS LIST
PACKING

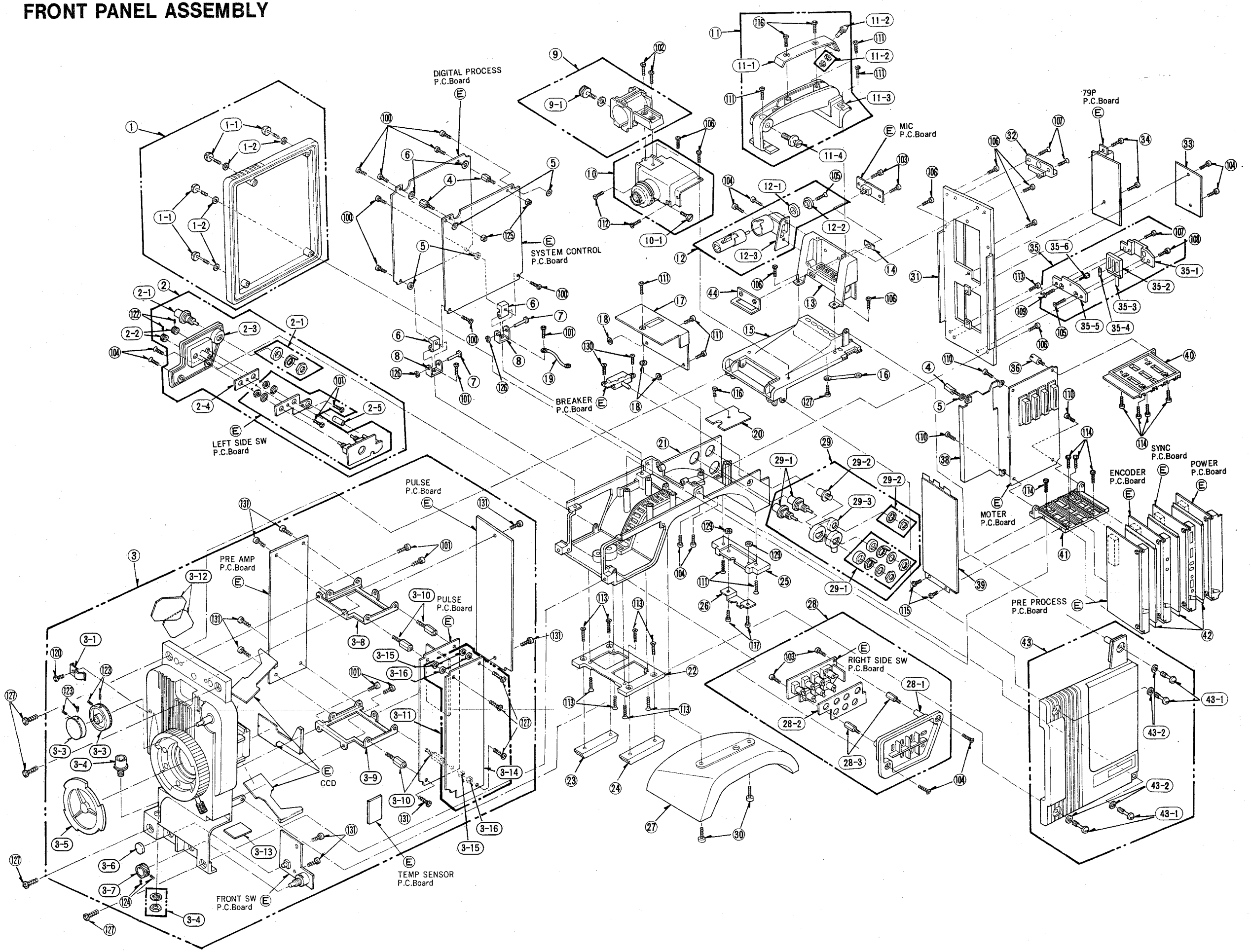


Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1		VFC0379	SHOLDER BELT	1	
2		VPN2742	PAD (A)	2	
3		VFK0637	EXTENDER	1	
4		VFB0076	RAIN COVER	1	
6		VPN2741	PAD (B)	1	
7		VFB0080	TRIPOD ADAPTER	1	
10		VPG5285	PACKING CASE	1	
11		VPN2740	LOWER CUSHION	1	
12		VPN2739	UPPER CUSHION	1	
13		VYB0127	HANDLE U	1	
14		XSB4+16FZS	SCREW	2	
15		VPF0230	COVER	1	
16		VPN2931	CUSHION SPACER	1	

FRONT PANEL ASSEMBLY

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1		VYK4743	SIDE CASE (L) U	1	
1-1		VHD0530	SCREW	4	
1-2		VMX1090	SPACER	4	
2		VYP3914	OPERATION PANEL (L) U	1	
2-1		VJS2061	BNC CONNECTOR	1	
2-2		VXU0976	ROTARY SW KNOB	2	
2-3		VYP3913	OPERATION PANEL (L)	1	AQ-20D-E
2-3		VYP2896	OPERATION PANEL (L)	1	AQ-20D-P
2-4		VMG0507	WATERPROOF SHEET (L)	1	
2-5		VGU4906	MODE CHECK BUTTON	1	
3		VYK4156	FRONT U	1	
3-1		VJF0804	CABLE CLAMPER	1	
3-2		VGU5301	CC FILTER SW KNOB	1	
3-3		VGU5302	ND FILTERSW KNOB	1	
3-4		VJS2734A012	CONNECTOR (LENS)	1	
3-5		VKF1558	MOUNT CAP	1	
3-6		VGU4893	VTR BUTTON	1	
3-7		VXU0975	AUDIO VR KNOB	1	
3-8		VMP2437	P.C.BOARD HOLDER ANGLE	1	
3-9		VMP2433	P.C.BOARD HOLDER ANGLE	1	
3-10		VMS4328	P.C.BOARD SHAFT (2)	4	
3-11		VXA4275	INSULATION SHEET U	1	
3-12		VMZ1374	INSULATION SHEET (A)	1	
3-13		VMZ1393	INSULATION SHEET (B)	1	
3-14		VMZ1667	INSULATOPN SHEET (C)	1	
3-15		VMX1079	CUT WASHER	3	
3-16		VMX1223	SPACER	3	
4		VMS4328	P.C.BOARD SHAFT (2)	3	
5		VMX1079	CUT WASHER	7	
6		VMP2434	P.C.BOARD HOLDER ANGLE	2	
7		VMS4176	P.C.BOARD HOLDER PIN	2	
8		VMP2435	P.C.BOARD HOLDER ANGLE	2	
9		VYQ0311	MIC HOLDER (1) U	1	
9-1		VHD0539	MIC HOLDER SCREW	1	
10		VYQ0492	EVF HOLDER ANGLE U	1	
10-1		VHD0646	EVF SCREW	1	
11		VYH0139	HANDLE U	1	
11-1		VKF1404	HANDLE COVER	1	
11-2		BD-601R-B	BACK TARRY LED	1	
11-3		VKH0240	HANDLE	1	
11-4		VMS4083	SHOLDER BELT PIN	1	
12		VYQ0312	MIC HOLDER (2) U	1	
12-1		VMG0516	MIC HOLDER CUSHION	1	
12-2		VKF1350	MIC JACK CAP	1	
12-3		VJF0757	MIC HOLDER	1	
13		VYQ0309	HANDLE HOLDER	1	
14		VGU4555	SWITCH KNOB (L)	1	
15		VGM0551	TOP CASE	1	
16		VEE6844	GND CABLE	1	
17		VGM0565	BACK COVER U	1	
18		VMX0653	WASHER	3	
19		VEE6844	EARTH LINE	1	
20		VMZ1606	COVER	1	
21		VYK2730	BOTTOM CASE U	1	
22		VMP3893	FRONT LOCK ANGLE	1	
23		VGQ1935	FRONT GUIDE (L)	1	
24		VGQ1970	FRONT GUIDE (R)	1	
25		VGQ1936	BACK GUIDE	1	
26		VMP2699	BACK LOCK ANGLE	1	
27		VMT0292	SHOLDER PAD U	1	
28		VYP2897	OPERATION PANEL (R) U	1	
28-1		VYP2899	OPERATION PANEL (R)	1	
28-2		VMG0508	WATERPROOF SHEET (R)	1	
28-3		VMS4329	P.C.BOARD SHAFT (1)	2	
29		VEJ0892	JACK U	1	
29-1		VJS2061	BNC CONNECTOR	2	
29-2		VJS2755A006	ECU CONNECTOR	1	
29-3		VMP2384	CONNECTOR ANGLE	1	
30		VHD0530	SCREW	2	
31		VYK2729	BACK CASE U	1	
32		VMP2429	LOCK ANGLE (UPPER)	1	
33		VMZ1481	P.C.BOARD COVER	1	
34		VHD0531	SCREW (79P CONNECTOR)	2	
35		VXA3834	LOCK ANGLE (LOWER) U	1	
35-1		VMP2431	LOCK ANGLE (BACK)	1	
35-2		VMP2432	LOCK ANGLE (LOWER)	1	
35-3		VGU4909	LOCK ANGLE BUTTON	1	
35-4		VMB2042	LOCK ANGLE (SPRING)	1	
35-5		VMP2430	LOCK ANGLE (FRONT)	1	
35-6		VHD0532	SCREW	1	
36		VMS3188	SUPPORT SCREW	1	
38		VXA4276	SHIELD PLATE	1	
39		VXA3884	SHIELD PLATE	1	
40		VGQ1933	P.C.BOARD BUIDE (UPPER)	1	
41		VGQ1934	P.C.BOARD BUIDE (LOWER)	1	
42		VXA3883	SHIELD PLATE	3	
43		VYK2731	SIDE CASE (R) U	1	
43-1		VHD0530	SCREW	4	
43-2		VMX1090	SPACER	4	
44		VXA4552	NUT BOARD	1	
100		XSB26+4FN	SCREW	8	
101		XYN26+C5	SCREW	8	
102		XSB3+14FZS	SCREW	2	
103		XSN26+4	SCREW	3	
104		XSB26+6FZ	SCREW	10	
105		XSS26+8FZ	SCREW	2	
106		XSB3+8FZS	SCREW	9	
105		XSS26+8FZ	SCREW	2	
106		XSB3+8FZS	SCREW	9	
107		XSS4+14FNS	SCREW	3	
108		XSS4+20FNS	SCREW	1	
109		XSS26+4FZ	SCREW	1	
110		XSB26+6FN	SCREW	3	
111		XSB3+10FZS	SCREW	8	
112		XSB3+16FZS	SCREW	2	
113		XSS3+8FZS	SCREW	9	
114		XSN26+6	SCREW	8	
115		XTN26+6J	SCREW	2	
116		XSB3+6FZS	SCREW	3	
117		XYN3+C8FCS	SCREW	2	
120		XSB2+5FZ	SCREW	2	
122		XXEV2W3FP	HEX-SCREW	2	
123		XXE26D3FZ	HEX-SCREW	4	
124		XXEV2W4FP	HEX-SCREW	2	
125		XNG26C	NUT	2	
126		XUC1.5FP	E-RING	2	
127		XYN26+C4FN	SCREW	5	
128		XSB4+6FZS	SCREW	2	
129		XWGV3Y6G	WASHER	2	
130		XYN2+C4	SCREW	2	
131		XSN26+5	SCREW	9	

FRONT PANEL ASSEMBLY



①
1-1
1-2
②
2-1
2-2
2-3
2-4
2-5
③
3-1
3-3
3-4
3-5
3-6
3-7
3-8
3-9
3-10
3-11
3-12
3-13
3-14
3-15
3-16
④
⑤
⑥
⑦
⑧
⑨
9-1
⑩
10-1
⑪
11-1
11-2
11-3
11-4
⑫
12-1
12-2
12-3
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
㉕
㉖
㉗
㉘
28-1
28-2
28-3
㉙
29-1
29-2
29-3
㉚
㉛
㉜
㉝
㉞
㉟
35-1
35-2
35-3
35-4
35-5
35-6
㊱
㊳
㊴
㊵
㊶
㊷
㊸
43-1
43-2
㊹
(100)
(101)
(102)
(103)
(104)
(105)
(106)
(107)
(108)
(109)
(110)
(111)
(112)
(113)
(114)
(115)
(116)
(117)
(120)
(123)
(124)
(125)
(126)
(127)
(129)
(130)
(131)
DIGITAL PROCESS P.C.Board Ⓔ
SYSTEM CONTROL P.C.Board Ⓔ
MIC P.C.Board Ⓔ
79P P.C.Board Ⓔ
BREAKER P.C.Board Ⓔ
LEFT SIDE SW P.C.Board Ⓔ
PULSE P.C.Board Ⓔ
PRE AMP P.C.Board Ⓔ
CCD Ⓔ
TEMP SENSOR P.C.Board Ⓔ
FRONT SW P.C.Board Ⓔ
RIGHT SIDE SW P.C.Board Ⓔ
MOTER P.C.Board Ⓔ
SYNC P.C.Board Ⓔ
ENCODER P.C.Board Ⓔ
POWER P.C.Board Ⓔ
PRE PROCESS P.C.Board Ⓔ

ELECTRICAL PARTS LIST (NTSC)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP20360B	P.C.BOARD W/COMPONENT	1	
			MOTHER		
		VEP25010C	P.C.BOARD W/COMPONENT	1	
			PRE AMP		
		VEP23105A	P.C.BOARD W/COMPONENT	1	
			PRE PROCESS		
		VEP23130A	P.C.BOARD W/COMPONENT	1	
			DIGITAL PROCESS		
		VEP23106A	P.C.BOARD W/COMPONENT	1	
			ENCODER		
		VEP20303D	P.C.BOARD W/COMPONENT	1	
			PULSE		
		VEP20392A	P.C.BOARD W/COMPONENT	1	ON VEP20303D
			PULSE SUB		
		VEP20302A	P.C.BOARD W/COMPONENT	1	
			CCD DRIVE		
		VEP26062B	P.C.BOARD W/COMPONENT	1	
			SYSTEM CONTROL		
		VEP20301A	P.C.BOARD W/COMPONENT	1	
			SYNC		
		VEP20313A	P.C.BOARD W/COMPONENT	1	ON VEP20301A
			SYNC SUB		
		VEP21097C	P.C.BOARD W/COMPONENT	1	
			POWER		
		VEP21099A	P.C.BOARD W/COMPONENT	1	ON VEP21097A
			POWER SUB		
		VEP20354A	P.C.BOARD W/COMPONENT	1	
			CCD MOUNT		
		VEP20306A	P.C.BOARD W/COMPONENT	1	
			FRONT SW		
		VEP20307A	P.C.BOARD W/COMPONENT	1	
			RIGHT SIDE SW		
		VEP20308A	P.C.BOARD W/COMPONENT	1	ON VEP20307A
			RIGHT SIDE SW SUB		
		VEP20309A	P.C.BOARD W/COMPONENT	1	
			LEFT SIDE SW		
		VEP20312A	P.C.BOARD W/COMPONENT	1	ON VEP20309A
			LEFT SIDE SW SUB		
		VEP20361A	P.C.BOARD W/COMPONENT	1	
			79P		
		VEP24011A	P.C.BOARD W/COMPONENT	1	
			MIC		
		VEP20340B	P.C.BOARD W/COMPONENT	1	
			OG ADJ		
		VEP20297A	P.C.BOARD W/COMPONENT	1	
			BRAKER		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20360B	P.C.BOARD W/COMPONENT		
			MOTHER		
			CAPACITORS		
C0001-04		ECUM1C105ZFN	C.CAPACITOR 16V 1U	4	
C0005		ECST1VX105	T.CAPACITOR 35V 1U	1	
C0006		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C0007		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
D0001		MA151K	DIODE	1	
D0002		EA60QC04F	DIODE	1	
J0301-04		VJS2744A040	CONNECTOR (FEMALE)	4	
P0304		VJS2907D020	CONNECTOR (FEMALE)	1	
P0306		VJP2741B010	CONNECTOR (MALE)	1	
P0307		VJP2741B018	CONNECTOR (MALE)	1	
P0308		VJS2907D018	CONNECTOR (FEMALE)	1	
P0309		VJP2741B026	CONNECTOR (MALE)	1	
P0312		VJP2741B022	CONNECTOR (MALE)	1	
P0313		VJP2741B006	CONNECTOR (MALE)	1	
Q0001		UN2211	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R0001		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R0002		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
	■	VEP25010C	P.C.BOARD W/COMPONENT		
			PRE AMP		
			CAPACITORS		
C5004		ECA1CKF270	E.CAPACITOR 16V 27U	1	
C5005		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5006		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C5007		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5101		ECST1CC106	T.CAPACITOR 16V 10U	1	
C5102		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5103,04		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5105		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5106,07		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5108		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5109		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C5111		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5112		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5113		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
C5114		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C5201		ECST1CC106	T.CAPACITOR 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5202		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5203,04		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5205		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5206,07		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5208		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5209		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C5211		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5212		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5213		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
C5214		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C5301		ECST1CC106	T.CAPACITOR 16V 10U	1	
C5302		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5303,04		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5305		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5306,07		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5308		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5309		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C5311		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5312		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5313		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
C5314		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
D5001		MA3047M	DIODE	1	
D5102		HZ2BLL	DIODE	1	
D5202		HZ2BLL	DIODE	1	
D5302		HZ2BLL	DIODE	1	
IC5001		RC431U	DIODE	1	
IC5002		LM2904M	IC	1	
P241-43		VJP2739A002	CONNECTOR (MALE)	3	
Q5001		2SB956	TRANSISTOR	1	(S)
Q5101		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5102		3SK157J15	TRANSISTOR	1	
Q5103		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5104		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5105		3SK157J15	TRANSISTOR	1	
Q5106		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5107		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5108		3SK157J15	TRANSISTOR	1	
Q5109		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5110		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5111		3SK157J15	TRANSISTOR	1	
Q5112		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5113		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5114		3SK157J15	TRANSISTOR	1	
Q5115		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5116		2SC3735B35	TRANSISTOR	1	
Q5117		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5118		2SC3735B35	TRANSISTOR	1	
Q5119		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5120		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q5121,22		2SA1462Y34	TRANSISTOR	2	
Q5123		2SB710	TRANSISTOR	1	(Q,R)
Q5201		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5202		3SK157J15	TRANSISTOR	1	
Q5203		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5204		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5205		3SK157J15	TRANSISTOR	1	
Q5206		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5207		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5208		3SK157J15	TRANSISTOR	1	
Q5209		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5210		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5211		3SK157J15	TRANSISTOR	1	
Q5212		2SC2295	TRANSISTOR CHIP	1	(B,C)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q5213		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5214		3SK157J15	TRANSISTOR	1	
Q5215		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5216		2SC3735B35	TRANSISTOR	1	
Q5217		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5218		2SC3735B35	TRANSISTOR	1	
Q5219		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5220		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q5221,22		2SA1462Y34	TRANSISTOR	2	
Q5301		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5302		3SK157J15	TRANSISTOR	1	
Q5303		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5304		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5305		3SK157J15	TRANSISTOR	1	
Q5306		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5307		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5308		3SK157J15	TRANSISTOR	1	
Q5309		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5310		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5311		3SK157J15	TRANSISTOR	1	
Q5312		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5313		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5314		3SK157J15	TRANSISTOR	1	
Q5315		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5316		2SC3735B35	TRANSISTOR	1	
Q5317		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5318		2SC3735B35	TRANSISTOR	1	
Q5319		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5320		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q5321,22		2SA1462Y34	TRANSISTOR	2	
			RESISTORS		
R5001		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R5002		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5003		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R5004		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5005		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R5006,07		VRE0034E563	M.RESISTOR CH 1/10W 56K	2	
R5008		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R5009		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R5010		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R5011		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
R5101		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R5102		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5103		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5104		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R5105		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5106		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5107		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5108		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5109		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5110		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5111		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5112		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5113		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5114		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5115		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5116		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5117		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5118		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5119		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5120		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5121		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5124		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5125		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5126		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5127		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5128		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R5129-31		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	3	
R5132,33		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R5134		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5136		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R5137		VRE0034E561	M.RESISTOR CH 1/10W 560	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R5139		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R5140		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R5201		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R5202		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5203		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5204		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R5205		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5206		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5207		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5208		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5209		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5210		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5211		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5212		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5213		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5214		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5215		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5216		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5217		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5218		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5219		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5220		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5221		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5224		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5225		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5226		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5227		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5228		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R5229-31		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	3	
R5232,33		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R5234		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5239		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R5301		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R5302		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5303		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5304		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R5305		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5306		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5307		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5308		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5309		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5310		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5311		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5312		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5313		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5314		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5315		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5316		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5317		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5318		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5319		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5320		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5321		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5324		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R5325		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5326		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R5327		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5328		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R5329		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R5330,31		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	2	
R5332,33		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R5334		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R5339		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
TP5001-05		VJR0460	TEST POINT	5	
TP5101-03		VJR0460	TEST POINT	3	
TP5201-03		VJR0460	TEST POINT	3	
TP5301-03		VJR0460	TEST POINT	3	
TPG5001,02		VJR0236B	TEST POINT	2	
VC101		ECV1ZW30X53	V.CAPACITOR 30P	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VC201		ECV1ZW30X53	V.CAPACITOR 30P	1	
VC301		ECV1ZW30X53	V.CAPACITOR 30P	1	
VR5101		VRV0113B502	T.RESISTOR 5K	1	
VR5102		VRV0113B203	T.RESISTOR 20K	1	
VR5201		VRV0113B502	T.RESISTOR 5K	1	
VR5202		VRV0113B203	T.RESISTOR 20K	1	
VR5301		VRV0113B502	T.RESISTOR 5K	1	
VR5302		VRV0113B203	T.RESISTOR 20K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP23105A	P.C.BOARD W/COMPONENT		
			PRE PROCESS		
			CAPACITORS		
C3001		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3002		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3003		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3005		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3006		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3007		ECST1VY104	T.CAPACITOR 35V 0.1U	1	
C3008-10		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3011,12		ECST1VY104	T.CAPACITOR 35V 0.1U	2	
C3013		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3014		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3015,16		ECST1VY104	T.CAPACITOR 35V 0.1U	2	
C3017		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3018		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3019		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3020		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3021		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3023		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3024		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C3101		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3102		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3103		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3104		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3106		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3107,08		ECST1AC106	T.CAPACITOR 10V 10U	2	
C3109		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3110		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3112		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C3113		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3114		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3115,16		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3120		ECSF1VE104	T.CAPACITOR 35V 0.1U	1	
C3122		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3123		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C3124		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3125,26		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C3127,28		ECSF1AE106	T.CAPACITOR 10V 10U	2	
C3129		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C3130		ECUM1H010DCN	C.CAPACITOR CH 50V 1P	1	
C3132		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3201		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3202		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3203		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3204		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3206		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3207,08		ECST1AC106	T.CAPACITOR 10V 10U	2	
C3209		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3210		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3212		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C3213		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3214		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3215,16		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3220		ECSF1VE104	T.CAPACITOR 35V 0.1U	1	
C3222		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3223		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C3224		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3225,26		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C3227,28		ECSF1AE106	T.CAPACITOR 10V 10U	2	
C3229		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C3230		ECUM1H010DCN	C.CAPACITOR CH 50V 1P	1	
C3232		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3301		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3302		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3303		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3304		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3306		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3307,08		ECST1AC106	T.CAPACITOR 10V 10U	2	
C3309		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3310		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3312		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C3313		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3314		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3315,16		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3320		ECSF1VE104	T.CAPACITOR 35V 0.1U	1	
C3322		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3323		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C3324		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3325,26		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C3327,28		ECSF1AE106	T.CAPACITOR 10V 10U	2	
C3329		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C3330		ECUM1H010DCN	C.CAPACITOR CH 50V 1P	1	
C3332		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
CN3001		VJP2744B040	CONNECTOR (MALE)	1	
D3002-04		MA3024	DIODE	3	
D3005		MA3047M	DIODE	1	
D3100-02		MA151K	DIODE	3	
D3200-02		MA151K	DIODE	3	
D3300-02		MA151K	DIODE	3	
FL3100		VLF0828	FILTER	1	
FL3200		VLF0828	FILTER	1	
FL3300		VLF0828	FILTER	1	
IC3001		VCR0306	IC	1	
IC3004,05		LM2904M	IC	2	
IC3006		RC431U	DIODE	1	
IC3007		TL062CPS	IC	1	
IC3100		TL062CPS	IC	1	
IC3101		MC1595L	IC	1	
IC3102		VCR0307	IC	1	
IC3200		TL062CPS	IC	1	
IC3201		MC1595L	IC	1	
IC3202		VCR0307	IC	1	
IC3300		TL062CPS	IC	1	
IC3301		MC1595L	IC	1	
IC3302		VCR0307	IC	1	
Q3001		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q3003		2SD1280	TRANSISTOR	1	(S,T)
Q3004,05		2SB956	TRANSISTOR	2	(S)
Q3006		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q3100-02		2SC3735B35	TRANSISTOR	3	
Q3103,04		2SK321	TRANSISTOR	2	(Q,R)
Q3106		2SK321	TRANSISTOR	1	(Q,R)
Q3107,08		2SC3735B35	TRANSISTOR	2	
Q3109		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3110		2SK94-X4	TRANSISTOR	1	
Q3112		2SA1462	TRANSISTOR	1	
Q3113		2SA1461	TRANSISTOR	1	
Q3200-02		2SC3735B35	TRANSISTOR	3	
Q3203,04		2SK321	TRANSISTOR	2	(Q,R)
Q3206		2SK321	TRANSISTOR	1	(Q,R)
Q3207,08		2SC3735B35	TRANSISTOR	2	
Q3209		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3210		2SK94-X4	TRANSISTOR	1	
Q3211		2SK321	TRANSISTOR	1	(Q,R)
Q3212		2SA1462	TRANSISTOR	1	
Q3213		2SA1461	TRANSISTOR	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q3300-02		2SC3735B35	TRANSISTOR	3	
Q3303,04		2SK321	TRANSISTOR	2	(Q,R)
Q3306		2SK321	TRANSISTOR	1	(Q,R)
Q3307,08		2SC3735B35	TRANSISTOR	2	
Q3309		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3310		2SK94-X4	TRANSISTOR	1	
Q3312		2SA1462	TRANSISTOR	1	
Q3313		2SA1461	TRANSISTOR	1	
			RESISTORS		
R3024		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3025		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3026		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3027		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3028		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3029		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3030		ERJ6GEYJ395	M.RESISTOR CH 1/10W 3.9M	1	
R3031		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3032		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3033		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3034		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3035		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R3036		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3037		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3038		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3039		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3040		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3042		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R3043		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3044		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3045		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3046		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3047		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3048		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3049		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3050		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R3051		VRE0034E113	M.RESISTOR CH 1/10W 11K	1	
R3100		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3101		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3102		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3103		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3104		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3105		VRE0034E511	RESISTOR	1	
R3106		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R3107		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3108		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3109		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3110		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3111		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R3112		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R3113		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3115		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3116		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3117		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3118		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3119		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3120		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3121		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
R3122		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3123		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3124		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3125,26		VRE0034E183	M.RESISTOR CH 1/10W 18K	2	
R3127		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3128		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3129		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3130		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3131		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3132		VRE0034E511	RESISTOR	1	
R3133		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3134,35		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	2	
R3137		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3138		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3140		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3142		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R3143		VRE0034E620	M.RESISTOR CH 1/10W 62	1	
R3144		VRE0034E511	RESISTOR	1	
R3145		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3146		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3147		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3148		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R3149		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3150		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3152		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3153		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3154		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3155		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3163		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3164		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3165		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3200		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3201		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3202		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3203		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3204		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3205		VRE0034E511	RESISTOR	1	
R3206		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R3207		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3208		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3209		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3210		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3211		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R3212		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R3213		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3215		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3216		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3217		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3218		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3219		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3220		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3221		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R3222		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3223		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3224		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3227		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3228		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3229		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3230		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3231		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3232		VRE0034E511	RESISTOR	1	
R3233		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3234,35		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	2	
R3237		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3238		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3240		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3242		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R3243		VRE0034E620	M.RESISTOR CH 1/10W 62	1	
R3244		VRE0034E511	RESISTOR	1	
R3245		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3246		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3247		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3248		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R3249		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3250		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3252		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3253		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3254		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3255		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3256		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R3257		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R3258		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	1	
R3259		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3260		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R3263		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3264		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3265		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3300		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3301		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3302		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3303		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3304		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3305		VRE0034E511	RESISTOR	1	
R3306		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R3307		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3308		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3309		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3310		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3311		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R3312		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R3313		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3315		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3316		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3317		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3318		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3319		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3320		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3321		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
R3322		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3323		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3324		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3325,26		VRE0034E183	M.RESISTOR CH 1/10W 18K	2	
R3327		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3328		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3329		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3330		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3331		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3332		VRE0034E511	RESISTOR	1	
R3333		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3334,35		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	2	
R3337		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3338		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3340		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3342		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R3343		VRE0034E620	M.RESISTOR CH 1/10W 62	1	
R3344		VRE0034E511	RESISTOR	1	
R3345		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3346		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3347		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3348		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R3349		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3350		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3352		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3353		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3354		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3355		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3363		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3364		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3365		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
TP3100,01		VJR0460	TEST POINT	2	
TP3200,01		VJR0460	TEST POINT	2	
TP3300,01		VJR0460	TEST POINT	2	
VR3100		VRV0062B501	V.RESISTOR 500	1	
VR3101		VRV0062B102	V.RESISTOR 1K	1	
VR3102		VRV0062B503	V.RESISTOR 50K	1	
VR3103		VRV0062B204	V.RESISTOR 200K	1	
VR3104		VRV0062B102	V.RESISTOR 1K	1	
VR3105		VRV0062B103	V.RESISTOR 10K	1	
VR3200		VRV0062B501	V.RESISTOR 500	1	
VR3201		VRV0062B102	V.RESISTOR 1K	1	
VR3202		VRV0062B503	V.RESISTOR 50K	1	
VR3203		VRV0062B204	V.RESISTOR 200K	1	
VR3204		VRV0062B102	V.RESISTOR 1K	1	
VR3300		VRV0062B501	V.RESISTOR 500	1	
VR3301		VRV0062B102	V.RESISTOR 1K	1	
VR3302		VRV0062B503	V.RESISTOR 50K	1	
VR3303		VRV0062B204	V.RESISTOR 200K	1	
VR3304		VRV0062B102	V.RESISTOR 1K	1	
VR3305		VRV0062B103	V.RESISTOR 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VMP2424	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	R	VEP23130A	P.C.BOARD W/COMPONENT		
			DIGITAL PROCESS		
			CAPACITORS		
C3001-04		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C3005,06		ECA0JKF470	E.CAPACITOR 6.3V 47U	2	
C3007-15		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	9	
C3016		ECA0JKF470	E.CAPACITOR 6.3V 47U	1	
C3017		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3019-47		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	29	
C3048		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3049		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3054-57		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C3059,60		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
D3001		MA3024	DIODE	1	
D3002		NJM431U	IC	1	
IC3001		VC5776	IC	1	
IC3002		VC5727	IC	1	
IC3003		VC5777	IC	1	
IC3004		VC5778	IC	1	
IC3005		NJM2904M	IC	1	
IC3006-08		CXD1175AM	IC	3	
IC3009-13		MB40760PF	IC	5	
IC3014		74AC04SJ	IC	1	
IC3015		74AC08SJ	IC	1	
IC3016-19		74AC245SJ	IC	4	
IC3020		TL062CPS	IC	1	
IC3021		TC7S04F	IC	1	
L3001		VLQ0409K470	COIL 47UH	1	
L3002-04		VLP0017	COIL	3	
P3341		VJP2741B016	CONNECTOR (MALE)	1	
P3342		VJP2741B022	CONNECTOR (MALE)	1	
P3343,44		VJP2509	CONNECTOR (MALE)	2	
P3345		VJP2739B004	CONNECTOR (MALE)	1	
P3346		VJP2739B014	CONNECTOR (MALE)	1	
P3347		VJP2739B010	CONNECTOR (MALE)	1	
P3348		VJP2739B003	CONNECTOR (MALE)	1	
Q3001		2SB956	TRANSISTOR	1	(S)
Q3002-06		2SC2295	TRANSISTOR CHIP	5	(B,C)
			RESISTORS		
R3001		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R3002,03		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R3004		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3005		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3006		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3007,08		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	2	
R3013,14		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3015		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3016		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R3017		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3018,19		VRE0034E220	M.RESISTOR CH 1/10W 22	2	
R3020,21		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	2	
R3022		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R3023		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3024		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R3025		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3026		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3027		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3029,30		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3032		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3033		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R3034		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3035-69		VRE0034E470	M.RESISTOR CH 1/10W 47	35	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP23106A	P.C.BOARD W/COMPONENT		
			ENCODER		
			CAPACITORS		
C3001		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3002		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3003		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3004		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3006		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3007		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3010,11		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C3012-16		ECA0JKF121	E.CAPACITOR 6.3V 120U	5	
C3017		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3018		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3019		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3020		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3021		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3022		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3023		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3024		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3025		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3027		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3028		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C3030		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3031		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3032		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3033,34		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C3035		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3036		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C3039		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3040		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3041		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3042		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3043		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3044		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3045		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C3046		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3047		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3048		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3050		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3051		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3052-55		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	4	
C3056		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3057		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3058		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C3061		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3062		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3063		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3065		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3067		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3068		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3069		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3070		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3072		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3073		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3074		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3075-78		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	4	
C3079		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C3080		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3082		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3083		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3084		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3086		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3087		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3089		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3095		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3096		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3097,98		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3099		VCC0035	P.CAPACITOR	1	
C3100		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3101		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3102-04		ECUM1H152JN	C.CAPACITOR CH 50V 1500P	3	
C3105		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3106		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3107		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3108-10		ECA0JKF121	E.CAPACITOR 6.3V 120U	3	
C3115		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3116		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3117		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3118		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3119		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3120		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3122		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3124,25		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	2	
C3126-28		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3129		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3130		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
D3001,02		MA153	DIODE	2	
D3003,04		MA3024	DIODE	2	
D3005,06		MA3047	DIODE	2	
DL3001		VLD0216	DELAY	1	
DL3002		ELB4M087	DELAY	1	
IC3001		AD847JR	IC	1	
IC3002,03		TL061CPS	IC	2	
IC3004		NJM1496M	IC	1	
IC3005		TL062CPS	IC	1	
IC3006		TL061CPS	IC	1	
IC3007		NJM1496M	IC	1	
IC3009		TL062CPS	IC	1	
IC3010		MC14053BF	IC	1	(R)
IC3011		RC431U	DIODE	1	
IC3012		AD847JR	IC	1	
JP3002		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L3001		VLQEL05F3R3J	COIL 3.3UH	1	
L3003		VLQEL05F470J	COIL 47UH	1	
L3005		VLQEL05F102J	COIL 1000UH	1	
L3007		VLQEL05F331J	COIL 330UH	1	
L3008,09		VLQEL05F470J	COIL 47UH	2	
L3010		VLQEL05F3R9J	COIL 3.9UH	1	
L3011		VLQEL05F150J	COIL 15UH	1	
L3012		VLQEL05F270J	COIL 27UH	1	
L3013		VLQEL05F180J	COIL 18UH	1	
L3014,15		VLQ0467J120	COIL 12UH	2	
P3302		VJP2744B040	CONNECTOR (MALE)	1	
Q3001-04		2SC2295	TRANSISTOR CHIP	4	(B,C)
Q3005		2SC3734B24	TRANSISTOR	1	
Q3006		2SB621	TRANSISTOR	1	(Q,R)
Q3007		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q3008,09		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q3010,11		2SC3734B24	TRANSISTOR	2	
Q3012-17		2SC2295	TRANSISTOR CHIP	6	(B,C)
Q3018		2SA1022	TRANSISTOR CHIP	1	(B,C)

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q3019,20		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q3021		2SK94-X4	TRANSISTOR	1	
Q3022		2SB956	TRANSISTOR	1	(S)
Q3023		2SD1280	TRANSISTOR	1	(S,T)
Q3024-26		2SC2295	TRANSISTOR CHIP	3	(B,C)
Q3027		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q3028,29		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q3030		2SK94-X4	TRANSISTOR	1	
Q3031-36		2SC3734B24	TRANSISTOR	6	
Q3037-40		2SC2295	TRANSISTOR CHIP	4	(B,C)
Q3041		2SC3734B24	TRANSISTOR	1	
Q3043,44		2SC2295	TRANSISTOR CHIP	2	(B,C)
			RESISTORS		
R3001,02		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3003		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3004		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3006		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3007,08		VRE0034E621	M.RESISTOR CH 1/10W 620	2	
R3010		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3011		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R3012		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3013		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3014,15		VRE0034E511	RESISTOR	2	
R3016		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3017		VRE0034E910	M.RESISTOR CH 1/10W 91	1	
R3018		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3020		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3021		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3022		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R3023		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3024		VRE0034E511	RESISTOR	1	
R3025		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3026		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3027		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3028		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R3029		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3030,31		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3034		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3035		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R3037		VRE0034E361	M.RESISTOR CH 1/10W 360	1	
R3038		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3040		VRE0034E361	M.RESISTOR CH 1/10W 360	1	
R3041		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3042		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3043		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3044		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3045		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3046		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R3048		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3049		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3050		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3051,52		VRE0034E621	M.RESISTOR CH 1/10W 620	2	
R3053		VRE0034E133	M.RESISTOR CH 1/10W 13K	1	
R3054		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3055		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R3056		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3057		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3058		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
R3059		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3060		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R3061		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3062		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3063		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3064,65		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	2	
R3066		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3067,68		VRE0034E202	M.RESISTOR CH 1/10W 2K	2	
R3069		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3070		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3071		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3072		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3073		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3074		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3076		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3077		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3078		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3079		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3080		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R3081		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3082		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3083		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3085		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3086		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3087		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R3088		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3089		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R3090		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R3091		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R3092		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3094		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R3095,96		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3097		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3098		ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
R3099		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3100		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R3101		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3102		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3103		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3104		VRE0034E112	M.RESISTOR CH 1/10W 1.1K	1	
R3105		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R3107		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3108		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3109		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R3110		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3111		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3112		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3113,14		VRE0034E511	RESISTOR	2	
R3115		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3116		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R3117		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3118		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3120		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3121		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3122		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R3123		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3124,25		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3126		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3127		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3129		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3130		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R3131		VRE0034E361	M.RESISTOR CH 1/10W 360	1	
R3132		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R3133		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R3134		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3135		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3136		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R3137		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3138		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R3139,40		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	2	
R3141		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3142		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3143		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3144		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3145		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3146		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3147		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3148		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3149		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3150		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3151		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3164		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3165		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3166		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3167		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R3168		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3169		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3170		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3171		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3172		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3173		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3174		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3175		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3176		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3177		VRE0034E753	M.RESISTOR CH 1/10W 75K	1	
R3178		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3179		VRE0034E823	M.RESISTOR CH 1/10W 82K	1	
R3180		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R3181		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3182		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3183		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R3184		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R3185		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3186		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R3187		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3188		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3189		VRE0034E113	M.RESISTOR CH 1/10W 11K	1	
R3190		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R3191		VRE0055E620	M.RESISTOR 1/4W 62	1	
R3192		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3193		VRE0034E511	RESISTOR	1	
R3195		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3196		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3197		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3198		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3199		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R3200		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3201		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3202		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3203		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R3204		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3205		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3206		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3207		ERJ6GEYJ395	M.RESISTOR CH 1/10W 3.9M	1	
R3208		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3209		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3210		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3211		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
SW3002-04		VJP1940	CONNECTOR SWITCH	3	
TH3001		ERSA39J102	THERMISTOR	1	
TP3001-08		VJR0460	TEST POINT	8	
VC3002		ECV1ZW30K53	V.CAPACITOR 30P	1	
VR3001		VRV0062B502	V.RESISTOR 5K	1	
VR3003		VRV0069B102	V.RESISTOR 1K	1	
VR3004		VRV0062B101	V.RESISTOR 100	1	
VR3005		VRV0062B502	V.RESISTOR 5K	1	
VR3006		VRV0062B501	V.RESISTOR 500	1	
VR3007		VRV0069B102	V.RESISTOR 1K	1	
VR3008		VRV0062B202	V.RESISTOR 2K	1	
VR3009		VRV0062B501	V.RESISTOR 500	1	
VR3010		VRV0062B202	V.RESISTOR 2K	1	
VR3011		VRV0069B503	V.RESISTOR 50K	1	
VR3013		VRV0062B202	V.RESISTOR 2K	1	
VR3014		VRV0062B501	V.RESISTOR 500	1	
VR3015		VRV0062B102	V.RESISTOR 1K	1	
VR3016		VRV0069B503	V.RESISTOR 50K	1	
VR3018		VRV0062B202	V.RESISTOR 2K	1	
VR3021		VRV0062B502	V.RESISTOR 5K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR3022		VRV0062B103	V.RESISTOR 10K	1	
VR3023		VRV0062B101	V.RESISTOR 100	1	
VR3024		VRV0062B103	V.RESISTOR 10K	1	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	3	
		VMP2425	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20303D	P.C.BOARD W/COMPONENT		
			PULSE		
	■	VEP20392A	P.C.BOARD W/COMPONENT		ON VEP20303D
			PULSE SUB		
			CAPACITORS		
C0001		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0003		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0004		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0005		ECST1CD336	T.CAPACITOR 16V 33U	1	
C0006		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0007		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0008		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C0009-12		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	4	
C0013		ECWV1E333JS	P.CAPACITOR 25V 0.033U	1	
C0014		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C0015		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0016		ECST1CC106	T.CAPACITOR 16V 10U	1	
C0017		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C0018		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0019		ECUM1H821JN	C.CAPACITOR CH 50V 820P	1	
C0020		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0021		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0022		ECA1AFQ272	E.CAPACITOR 10V 2700U	1	
C0023		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0024		ECST1CD336	T.CAPACITOR 16V 33U	1	
C0025		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0026		ECA1EFQ820	E.CAPACITOR 25V 82U	1	
C0027		ECA1EFQ181	E.CAPACITOR 25V 180U	1	
C0028		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0029.30		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0031		ECST1CC106	T.CAPACITOR 16V 10U	1	
C0032		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C0033		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C0034-36		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C0037		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C0038		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0039		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C0040		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0041		ECCF1H180JC	C.CAPACITOR 50V 18P	1	
D0001		MA3024	DIODE	1	
D0002		MA3047M	DIODE	1	
D0003,04		MA3068M	DIODE	2	
IC0001		MN53020XXB	IC	1	
IC0002		MN53003XCU	IC	1	
IC0003		MC74HC4538F	IC	1	
IC0004,05		MC74HC04AF	IC	2	
IC0006		N74F08D	IC	1	
IC0007.08		LM2904M	IC	2	
IC0009		RC431U	DIODE	1	
IC0010		MC74HC00AF	IC	1	
IC0011		MC74HC164F	IC	1	
IC0012		CXD1251Q	IC	1	
IC0014		MC74HC164F	IC	1	
IC0015		TC7S00F	IC	1	
IC0016		NJM2406F	IC	1	
L0001		VLQEL05F330K	COIL 33UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P230		VJS2818829	CONNECTOR (FEMALE)	1	
P231		VJP2741A016	CONNECTOR (MALE)	1	
P233		VJP2741A006	CONNECTOR (MALE)	1	
Q0001		2SK94-X4	TRANSISTOR	1	
Q0002,03		2SB956	TRANSISTOR	2	(S)
Q0004,05		2SB710	TRANSISTOR	2	(R,S)
Q0006,07		2SC3735B35	TRANSISTOR	2	
Q0008		2SB779	TRANSISTOR	1	(R,S)
			RESISTORS		
R0001		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R0002		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0003-06		VRE0034E102	M.RESISTOR CH 1/10W 1K	4	
R0007		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0008		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R0009		VRE0034E560	M.RESISTOR CH 1/10W 56	1	
R0010		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0011-14		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	4	
R0020		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0022		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0027		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0028		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0029		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0030		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0031,32		VRE0034E223	M.RESISTOR CH 1/10W 22K	2	
R0033		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0034		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0035		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0036		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R0037		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0038		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0039		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0040		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R0041		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0042		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0043		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0044		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R0045		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0046,47		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0048,49		VRE0034E391	M.RESISTOR CH 1/10W 390	2	
R0050		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0051		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0052		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0054-57		VRE0034E104	M.RESISTOR CH 1/10W 100K	4	
R0058,59		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	2	
R0060		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R0061,62		VRE0034E563	M.RESISTOR CH 1/10W 56K	2	
R0063		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0064		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
VR0001-06		VRV0069B501	V.RESISTOR 500	6	
X0001		VSX0334	CRYSTAL OSCILLATOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20302A	P.C.BOARD W/COMPONENT		
			CCD DRIVE		
			CAPACITORS		
C0001		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C0002		ECA1EFQ821	E.CAPACITOR 25V 820U	1	
C0003		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C0004		ECA1EFQ221	E.CAPACITOR 25V 220U	1	
C0005		ECST1VX105	T.CAPACITOR 35V 1U	1	
C0006		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C0007		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C0008		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0009		ECA1AFQ820	E.CAPACITOR 10V 82U	1	
C0010		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C0011		ECA1CFQ152	E.CAPACITOR 16V 1500U	1	
C0012		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0013		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0014		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0015		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0016		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0017		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0018		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0019		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0020		ECST1VD685	T.CAPACITOR 35V 0.68U	1	
C0021		ECST1EC335	T.CAPACITOR 25V 3.3U	1	
C0022,23		ECA1VFQ270	E.CAPACITOR 35V 27U	2	
C0024		ECA1AFQ820	E.CAPACITOR 10V 82U	1	
C0031		ECST1ED106	T.CAPACITOR 25V 10U	1	
C0032,33		ECST1CD336	T.CAPACITOR 16V 33U	2	
C0034		VCEA1AAP101	E.CAPACITOR 10V 100U	1	
C0036		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0037		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0038		ECA1VFQ180	E.CAPACITOR 35V 18U	1	
C0039		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C0040		ECEA1HFE100	E.CAPACITOR 50V 10U	1	
C0041		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0042,43		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0044		ECA1EFQ390	E.CAPACITOR 25V 39U	1	
C0045		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0046,47		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0048		ECA1EFQ390	E.CAPACITOR 25V 39U	1	
C0049		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0050,51		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0052		ECA1EFQ390	E.CAPACITOR 25V 39U	1	
C0053,54		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	2	
C0055		ECSF1CE106	T.CAPACITOR 16V 10U	1	
D0001		MA3024	DIODE	1	
D0002-05		MA3047M	DIODE	4	
D0006		MA704A	DIODE	1	
D0007		MA152K	DIODE	1	
D0008		MA153	DIODE	1	
D0009		MA152K	DIODE	1	
D0010		MA3068M	DIODE	1	
D0011		MA152K	DIODE	1	
D0012		MA3068M	DIODE	1	
D0013		MA152K	DIODE	1	
D0014		MA3068M	DIODE	1	
D0015		MA720	DIODE	1	
D0016		MA151K	DIODE	1	
IC0001		NJM431U	IC	1	
IC0002		NJM2904M	IC	1	
IC0003		NJM431U	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC0004,05		NJM2904M	IC	2	
IC0006		NJM431U	IC	1	
IC0007-09		EHDHA6474	IC	3	
IC0011		UPD6147G	IC	1	
IC0012		MN3107CS	IC	1	
IC0013		UPD6147G	IC	1	
IC0014		MN3107CS	IC	1	
IC0015		UPD6147G	IC	1	
IC0016		MN3107CS	IC	1	
IC0017,18		NJM2904M	IC	2	
J0221-23		VJS2725A018	CONNECTOR (FEMALE)	3	
L0001		VLQEL05F150J	COIL 15UH	1	
Q0001		2SD1280	TRANSISTOR	1	(S,T)
Q0002		2SB956	TRANSISTOR	1	(S)
Q0003-07		2SD602	TRANSISTOR	5	(R,S)<R>
Q0008,09		2SC3734B24	TRANSISTOR	2	
Q0010		2SA1608Y14	TRANSISTOR	1	
Q0011		IRFS120TRR	TRANSISTOR	1	
Q0012		2SA1608Y14	TRANSISTOR	1	
Q0013		IRFS120	TRANSISTOR	1	
Q0014		2SA1608Y14	TRANSISTOR	1	
Q0015		IRFS120	TRANSISTOR	1	
			RESISTORS		
R0001		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0002		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0003		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R0004		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R0005		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0006		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R0007		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0008		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0009,10		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R0011		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
R0012		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R0013		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0014		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0015		VRE0034E113	M.RESISTOR CH 1/10W 11K	1	
R0016		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0017		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0018		VRE0034E150	M.RESISTOR CH 1/10W 15	1	
R0019		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0020		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0021		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0022		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
R0023		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0024		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0025		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R0026		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R0027		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0028		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0029		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R0030		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R0031		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0032		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0033		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R0034		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R0035		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0036		ERJ6GEYJ134	M.RESISTOR CH 1/10W 130K	1	
R0037		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0038		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R0039		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R0040		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0041		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0042		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0043		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0044		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R0045		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0046		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R0047		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0048		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0049		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R0050		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0051		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0052		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0053		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R0054		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0055		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0056		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0057		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R0058		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0059-61		VRE0034E220	M.RESISTOR CH 1/10W 22	3	
R0062-64		VRE0034E331	M.RESISTOR CH 1/10W 330	3	
SW0001		VST0148	SWITCH	1	
TP0001-04		VJR0460	TEST POINT	4	
TP0006		VJR0460	TEST POINT	1	
TPG0001,02		VJR0236B	TEST POINT	2	
VR0004-06		VRV0113B203	T.RESISTOR 20K	3	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	
		VMZ1688	BARRIER	3	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP26062B	P.C.BOARD W/COMPONENT		
			SYSTEM CONTROL		
			CAPACITORS		
C6001		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C6002		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C6003		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C6004,05		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C6006,07		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C6008-10		ECST1VY104	T.CAPACITOR 35V 0.1U	3	
C6011-13		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C6014		ECST1VY104	T.CAPACITOR 35V 0.1U	1	
C6015-27		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	13	
C6028		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6029		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6030		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6031		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6032		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6033		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6034		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6035		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6036		ECST1CC106	T.CAPACITOR 16V 10U	1	
C6037,38		ECST1VY104	T.CAPACITOR 35V 0.1U	2	
C6039		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6040		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C6041		ECST1AC106	T.CAPACITOR 10V 10U	1	
C6042		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6043,44		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C6045,46		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C6047		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C6048-52		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	5	
C6053-55		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	3	
C6066-71		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	6	
C6072-74		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C6075		ECST1CY335	T.CAPACITOR 16V 3.3U	1	
C6076-79		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C6080		ECST1CC106	T.CAPACITOR 16V 10U	1	
C6081		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6083		ECST1CC106	T.CAPACITOR 16V 10U	1	
C6084		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6085-87		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C6088-93		ECST1CC106	T.CAPACITOR 16V 10U	6	
C6094-96		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C6097-99		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
D6001,02		MA3024	DIODE	2	
D6003		OA90	DIODE	1	
D6004-07		MA151K	DIODE	4	
IC6001		MN18885	IC	1	
IC6002		VSI1192B	IC	1	
IC6002		MB27C512P15F	IC	1	
IC6003		UPD43256AGU	IC	1	
IC6004		HN58C65RFP25	IC	1	
IC6005		L7A0425	IC	1	
IC6006		MN1287BF	IC	1	
IC6007		MC74HC4053F	IC	1	
IC6008		MN1280P	IC	1	
IC6009,10		MC74HC4051F	IC	2	
IC6011		MC74HC4052F	IC	1	
IC6012		TL064CNS	IC	1	
IC6013		TL062CPS	IC	1	
IC6014		AN1358S	IC	1	
IC6015		NJM2904M	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC6017		NJM431U	DIODE	1	
IC6018		MC74HC08AF	IC	1	
IC6019		MB88346APF	IC	1	
IC6020,21		UPD43256AGU	IC	2	
IC6022,23		MC74HC245AF	IC	2	
IC6024,25		MB86023PF	IC	2	
IC6026		TL062CPS	IC	1	
IC6002F		VJF0949	IC HOLDER	1	
IC6002S		VJS3146Z028	IC SOCKET	1	
L6001		VLQ0409K470	COIL 47UH	1	
P6320		VJP2741B030	CONNECTOR (MALE)	1	
P6321		VJS2907D020	CONNECTOR (FEMALE)	1	
P6322		VJS2907D018	CONNECTOR (FEMALE)	1	
P6323,24		VJS2509	CONNECTOR (FEMALE)	2	
P6325		VJP2741B020	CONNECTOR (MALE)	1	
Q6001		2SB956	TRANSISTOR	1	(S)
Q6002		2SD1280	TRANSISTOR	1	(S,T)
Q6003		UN211E	TRANSISTOR	1	
Q6004-07		2SD601	TRANSISTOR CHIP	4	(Q,R)
			RESISTORS		
R6001		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R6002		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6003		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R6004		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R6005		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R6006		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6007		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R6008		ERJ6GEYJ395	M.RESISTOR CH 1/10W 3.9M	1	
R6009		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R6010		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6012		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6013		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R6014		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R6015		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6016		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R6017		ERJ6GEYJ155	M.RESISTOR CH 1/10W 1M	1	
R6018		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R6019		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R6020		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R6021		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R6022		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6023		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R6024-26		VRE0034E103	M.RESISTOR CH 1/10W 10K	3	
R6027		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R6028		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6029		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6030		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R6031		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R6032		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6033,34		VRE0034E473	M.RESISTOR CH 1/10W 47K	2	
R6035,36		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R6037,38		VRE0034E470	M.RESISTOR CH 1/10W 47	2	
R6039-42		VRE0034E473	M.RESISTOR CH 1/10W 47K	4	
R6043		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6044		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R6045		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6046-64		VRE0034E473	M.RESISTOR CH 1/10W 47K	19	
R6065-67		VRE0034E470	M.RESISTOR CH 1/10W 47	3	
R6068-70		VRE0034E473	M.RESISTOR CH 1/10W 47K	3	
R6071		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6072-78		VRE0034E102	M.RESISTOR CH 1/10W 1K	7	
R6079		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6080		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6081-83		VRE0034E473	M.RESISTOR CH 1/10W 47K	3	
R6084		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R6085-87		VRE0034E101	M.RESISTOR CH 1/10W 100	3	
R6088		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R6089		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R6090,91		VRE0034E223	M.RESISTOR CH 1/10W 22K	2	
R6092		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6093		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R6094		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6095		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R6096-01		VRE0034E102	M.RESISTOR CH 1/10W 1K	6	
R6102		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R6103		ERJ6GEYJ434	M.RESISTOR CH 1/10W 430K	1	
R6104		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R6105		VRE0034E753	M.RESISTOR CH 1/10W 75K	1	
R6106		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R6107		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6108-10		VRE0034E153	M.RESISTOR CH 1/10W 15K	3	
R6111-13		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	3	
R6114-19		VRE0034E153	M.RESISTOR CH 1/10W 15K	6	
X6001		VSX0341	CRYSTAL OSCILLATOR	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20301A	P.C.BOARD W/COMPONENT		
			SYNC		
	■	VEP20313A	P.C.BOARD W/COMPONENT		ON VEP20301A
			SYNC SUB		
			CAPACITORS		
C0001		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C0002		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C0003		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C0004		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0005		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C0006-08		ECST1AC106	T.CAPACITOR 10V 10U	3	
C0009-13		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	5	
C0014		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0015		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0016,17		ECST1AY225	T.CAPACITOR 10V 2.2U	2	
C0018		ECEA1CSN100	E.CAPACITOR 16V 10U	1	
C0019		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0020		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0021		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0022		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C0023		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0024		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0025		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0026,27		ECST1AY225	T.CAPACITOR 10V 2.2U	2	
C0028		ECA1CBK100	E.CAPACITOR 16V 10U	1	
C0029,30		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C0031-33		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C0035		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0036		ECQM1H223JF	P.CAPACITOR 50V 0.022U	1	
C0037		ECA0JKF470	E.CAPACITOR 6.3V 47U	1	
C0038		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0039		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0040		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C0041		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0042		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0043-45		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	3	
C0046		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0047		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C0048		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0049		ECUM1H080DCN	C.CAPACITOR CH 50V 8OP	1	
C0050		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C0051		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C0052		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0053		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0054		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C0055		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C0057		ECUM1H080DCN	C.CAPACITOR CH 50V 8OP	1	
C0058		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C0059		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C0060		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C0061		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C0068		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0069,70		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0071		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C0072		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C0073		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C0074		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C0076		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C0079		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	1	
C0080,81		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0082		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C0083,84		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0085		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
D0001		1SS154	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D0002		1SS99	DIODE	1	
D0003		H25CLL	DIODE	1	
D0004		MA151K	DIODE	1	
D0005		RC431U	DIODE	1	
D0006		MA157	DIODE	1	
D0007		MA151WA	DIODE	1	
D0008		MA3047M	DIODE	1	
D0011		MA3047M	DIODE	1	
D0012		MA151K	DIODE	1	
EL7		VJP1940	CONNECTOR SWITCH	1	
EL7S		VJS1940	CONNECTOR SWITCH	1	
FL0001,02		VLF0905	FILTER	2	
IC0001		TL712CPS	IC	1	
IC0003		MC74HC00AF	IC	1	
IC0004		MC74HC04AF	IC	1	
IC0005		TL062CPS	IC	1	
IC0006		MC14052BF	IC	1	
IC0007		MN6761S	IC	1	
IC0008		MC74HC367F	IC	1	
IC0009		MC14053BF	IC	1	(R)
IC0010		UPD65022F210	IC	1	
IC0011		MC74HC08AF	IC	1	
IC0012		MC74HC4538F	IC	1	
IC0013		TC14S66F	IC	1	
IC0014		MC74HC7266F	IC	1	
IC0015,16		MC14557BF	IC	2	
IC0017		MC74HC02AF	IC	1	
IC0018		MC74HC4538F	IC	1	
IC0019		TC7S08F	IC	1	
IC0020		MC74HC10F	IC	1	
IC0021		MC74HC04AF	IC	1	
IC0022		MC14006BF	IC	1	
IC0023		MC74HC393F	IC	1	
IC0024		MC74HC74AF	IC	1	
IC0025		MC74HC02AF	IC	1	
IC0026,27		TL062CPS	IC	2	
IC0028		MC74HC393F	IC	1	
IC0029		TL062CPS	IC	1	
IC0030		TC7S08F	IC	1	
L0001		VLQ0163J470	COIL 47UH	1	
L0002		VLQ0417	COIL 10UH	1	
L0003		VLQ0163J121	COIL 120UH	1	
L0004		VLQ0163J560	COIL 56UH	1	
L0005		VLQ0163J470	COIL 47UH	1	
L0007		VLQ0163J330	COIL 33UH	1	
PD303		VJP2744B040	CONNECTOR (MALE)	1	
Q0001		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q0002-04		2SC2295	TRANSISTOR CHIP	3	(B,C)
Q0005		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q0006,07		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q0008		2SK94-X4	TRANSISTOR	1	
Q0009		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q0010		2SD1280	TRANSISTOR	1	(S,T)
Q0011		2SC3734B24	TRANSISTOR	1	
Q0012		2SB710	TRANSISTOR	1	(Q,R)
Q0013,14		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q0015-17		2SA1022	TRANSISTOR CHIP	3	(B,C)

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q0018		2SB956	TRANSISTOR	1	(S)
Q0019		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q0020,21		2SC3734B24	TRANSISTOR	2	
Q0022		2SA1461Y24T2	TRANSISTOR	1	
Q0023		2SC3734B24	TRANSISTOR	1	
Q0026,27		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q0028		2SC3735B35	TRANSISTOR	1	
			RESISTORS		
R0001		VRE0034E750	M.RESISTOR CH 1/10W 75	1	
R0002		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0003		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0004		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0005,06		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R0007		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0008		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0009		VRE0034E112	M.RESISTOR CH 1/10W 1.1K	1	
R0010,11		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R0012		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0013		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0014		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0015		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0016		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0017		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R0018		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0019		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0020		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0021		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R0022		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0023,24		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0025		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0026		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R0027		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0028		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R0029		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0030		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0031		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R0032		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R0033,34		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0035		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R0036		VRE0034E823	M.RESISTOR CH 1/10W 82K	1	
R0037		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0040		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R0041		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0042		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0043,44		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	2	
R0045		ERSB18J103	M.RESISTOR 1/8W 10K	1	
R0046		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0047,48		VRE0034E333	M.RESISTOR CH 1/10W 33K	2	
R0049		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R0050,51		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0052		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0053		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0054		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0055,56		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0057		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0058		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0059		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R0060		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R0061		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0064-66		VRE0034E333	M.RESISTOR CH 1/10W 33K	3	
R0067		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0068		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0069		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0070		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R0071		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0072		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0073		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0074		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0075		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R0076		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0077		ERJ6GEYK395	M.RESISTOR CH 1/10W 3.9M	1	
R0078		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0079		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R0080		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0081		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0082,83		VRE0034E333	M.RESISTOR CH 1/10W 33K	2	
R0084		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R0085		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0086,87		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0088		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0089		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R0090		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0091		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0092		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0093,94		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R0095		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R0097		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0098		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0099		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0100		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0102		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0106,07		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R0108		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R0109		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R0110		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R0111		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0112		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0113		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0114		VRE0034E752	M.RESISTOR CH 1/10W 7.5K	1	
R0115		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0116		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0117		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0118		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0119		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0120		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0121		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0122		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0123		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0124		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0125		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0126		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0127		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0128		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0129		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0130		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0131		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0132		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0133		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0134		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0135		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0136		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0137		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0138		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0139		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0140		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0141-44		VRE0034E104	M.RESISTOR CH 1/10W 100K	4	
R0145		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0146		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0147		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0148,49		VRE0034E104	M.RESISTOR CH 1/10W 100K	2	
R0150		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0153		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0154		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0155		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0156		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0158		VRE0034E511	RESISTOR	1	
R0163		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0164		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0165		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0166		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R0167		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R0168		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R0169		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0173,74		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R0176,77		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R0181		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0184		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0185		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0186,87		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R0189		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0191		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0194-96		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
R0199		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0203		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
SW0001		VSS028602	SWITCH	1	
SW0002,03		VSS028606	SWITCH	2	
SW0004,05		VST0133	SWITCH	2	
TP0001,02		VJR0460	TEST POINT	2	
TPG0001		VJR0236B	TEST POINT	1	
VR0001		VRV0069B502	V.RESISTOR 5K	1	
VR0002		VRV0116B503	V.RESISTOR 50K	1	
VR0003		VRV0062B103	V.RESISTOR 10K	1	
VR0004,05		VRV0062B203	V.RESISTOR 20K	2	
VR0006		VRV0062B103	V.RESISTOR 10K	1	
VR0007,08		VRV0062B203	V.RESISTOR 20K	2	
VR0009		VRV0062B103	V.RESISTOR 10K	1	
VR0010		VRV0062B102	V.RESISTOR 1K	1	
VR0011		VRV0062B203	V.RESISTOR 20K	1	
X0001		VSX0332	CRYSTAL OSCILLATOR	1	
X0002		VSX0333	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	
		VMP2426	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP21097C	P.C.BOARD W/COMPONENT		
			POWER		
	■	VEP21099A	P.C.BOARD W/COMPONENT		ON VEP21097C
			POWER SUB		
			CAPACITORS		
C1001		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C1002		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1003		ECA1VFQ151	E.CAPACITOR 35V 150U	1	
C1004		ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C1005		ECEA0JGE331	E.CAPACITOR 6.3V 330U	1	
C1006		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1007		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1008,09		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C1010		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1011,12		ECA1VFQ331	E.CAPACITOR 35V 330U	2	
C1013		ECUM1H152JN	C.CAPACITOR CH 50V 1500P	1	
C1014		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1015		VCEA1AAP221	E.CAPACITOR 10V 220U	1	
C1016		ECA1CFQ331	E.CAPACITOR 16V 330U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1017		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C1018		ECST1AX475	T.CAPACITOR 10V 4.7U	1	
C1019		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1020		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C1021		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C1022		ECST1AX475	T.CAPACITOR 10V 4.7U	1	
C1023,24		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1026		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C1028		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C1029,30		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C1031,32		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	2	
C1033		ECA1CFQ331	E.CAPACITOR 16V 330U	1	
C1034		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1035		ECA1AFQ331	E.CAPACITOR 10V 330U	1	
C1036		ECA1VFQ121	E.CAPACITOR 35V 120U	1	
C1037		ECA1EFQ181	E.CAPACITOR 25V 180U	1	
C1038		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1039		ECA1AFQ331	E.CAPACITOR 10V 330U	1	
C1040		ECA1VFQ121	E.CAPACITOR 35V 120U	1	
C1041		ECA1EFQ181	E.CAPACITOR 25V 180U	1	
C1042		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1043,44		ECA1AFQ331	E.CAPACITOR 10V 330U	2	
C1045		ECA1CFQ331	E.CAPACITOR 16V 330U	1	
C1046-48		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C1049		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C1050		ECST1EX155	T.CAPACITOR 25V 1.5U	1	
C1051		ECST1AX475	T.CAPACITOR 10V 4.7U	1	
C1052		ECST1VX105	T.CAPACITOR 35V 1U	1	
C1053		ECST1EX155	T.CAPACITOR 25V 1.5U	1	
C1054,55		ECA1EFQ181	E.CAPACITOR 25V 180U	2	
D1001-03		MA151K	DIODE	3	
D1004		MA701A	DIODE	1	
D1005		EA60QC04F	DIODE	1	
D1007		EA60QC04F	DIODE	1	
D1008		MA151K	DIODE	1	
D1010-13		E10QS06	DIODE	4	
D1014		EA60QC04F	DIODE	1	
D1016,17		MA701A	DIODE	2	
D1018,19		E10QS06	DIODE	2	
D1020,21		E562	DIODE	2	
D1022		MA151K	DIODE	1	
IC1001		RC082BM	IC	1	
IC1002		LM2904M	IC	1	
IC1003		TL1451CNS	IC	1	
IC1004		MC74HC02AF	IC	1	
IC1005		MC14013BF	IC	1	
L1001,02		VLQ0297	COIL	2	
L1003,04		VLQ0400	COIL	2	
L1005		VLQ0177K271	COIL 270UH	1	
L1006		VLQ0297	COIL	1	
L1007		VLQ0177K271	COIL 270UH	1	
L1008		VLQ0297	COIL	1	
L1009,10		VLQ0177K271	COIL 270UH	2	
L1011		VLQ0297	COIL	1	
L1012		VLQ0177K271	COIL 270UH	1	
P1304		VJP2744B040	CONNECTOR (MALE)	1	
Q1001		2SD601A	TRANSISTOR CHIP	1	(Q,R)
Q1002		UN2215	TRANSISTOR-RESISTOR	1	
Q1003		2SD601A	TRANSISTOR CHIP	1	(Q,R)
Q1004		2SB709A	TRANSISTOR CHIP	1	(Q,R)

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q1005		2SD601A	TRANSISTOR CHIP	1	(Q,R)
Q1006		2SB709A	TRANSISTOR CHIP	1	(Q,R)
Q1007,08		IRFR9020	TRANSISTOR	2	
Q1009		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q1010		2SB709	TRANSISTOR CHIP	1	(Q,R)
Q1011		2SB956	TRANSISTOR	1	(S)
Q1012,13		2SK1059-Z	TRANSISTOR	2	
Q1014		UN221E	TRANSISTOR	1	
Q1017,18		IRFR9020	TRANSISTOR	2	
			RESISTORS		
R1001		VRE0034E272	M.RESISTOR CH 1/10W 2,7K	1	
R1002		ERW2PKR10	W.RESISTOR 2W 0.1	1	
R1003		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R1004		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1005		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1006		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1007		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1008		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R1009		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1010,11		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	2	
R1012		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1013		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1014		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R1015		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1016,17		VRE0034E153	M.RESISTOR CH 1/10W 15K	2	
R1018,19		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R1020,21		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1022		ERJ6GEYJ3R3	M.RESISTOR CH 1/10W 3.3	1	
R1023		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R1024		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R1025		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1026		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1027		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1028		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1029		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1030		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R1031		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R1034		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R1037		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1038,39		VRE0034E221	M.RESISTOR CH 1/10W 220	2	
R1041		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1042		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1043,44		VRE0034E333	M.RESISTOR CH 1/10W 33K	2	
R1045,46		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R1052		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1053		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1054		VRE0034E270	M.RESISTOR CH 1/10W 75	1	
R1055,56		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1062-65		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	4	
T1001		VLT0629	TRANSFORMER	1	
VR1001		VRV0062B502	V.RESISTOR 5K	1	
			MISCELLANEOUS		
		VMP2427	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP20354A	P.C. BOARD W/COMPONENT		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CCD MOUNT		
			CAPACITORS		
C001		ECUM1H682KBN	C.CAPACITOR CH 50V 6800P	1	
C002-05		ECST1CY105	T.CAPACITOR 16V 1U	4	
C006		ECST1VX105	T.CAPACITOR 35V 1U	1	
C007		ECST1CY105	T.CAPACITOR 16V 1U	1	
Q001		2SC3735B35	TRANSISTOR	1	
			RESISTORS		
R001		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R004		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R005		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R006		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R007		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	
	■	VEP20306A	P.C.BOARD W/COMPONENT		
			FRONT SW		
			CAPACITORS		
C0051		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0052		ECST1CY335	T.CAPACITOR 16V 3.3U	1	
C0053		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0054.55		ECA1CKF150	E.CAPACITOR 16V 15U	2	
D0051		MA151K	DIODE	1	
IC0051		MC14013BF	IC	1	
IC0052		NJM2406F	IC	1	
P0103		VJP2739A002	CONNECTOR (MALE)	1	
P0123		VJP2741A014	CONNECTOR (MALE)	1	
Q0052		UN211E	TRANSISTOR	1	
			RESISTORS		
R0051		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0052		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R0053		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0054		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0055		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0056-58		VRE0034E104	M.RESISTOR CH 1/10W 100K	3	
R0059		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
SW0051		VSP0482	SWITCH	1	
VR0051		VRV0129B103	V.RESISTOR 10K	1	
	■	VEP20307A	P.C.BOARD W/COMPONENT		
			RIGHT SIDE SW		
	■	VEP20308A	P.C.BOARD W/COMPONENT		ON VEP20307A
			RIGHT SIDE SW SUB		
			CAPACITORS		
C0001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0002		ECEA1EFE221	E.CAPACITOR 25V 220U	1	
L0001		VLQ0297	COIL	1	
Q0001		UN211E	TRANSISTOR	1	
Q0002		UN221E	TRANSISTOR	1	
			RESISTORS		
R0002		ERX125J3R0	M.RESISTOR 1/2W 3.0	1	
R0003		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0004		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0005		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0006		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R0007		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R0008,09		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0010,11		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0012,13		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0014,15		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0016,17		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0018,19		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0020		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0021,22		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	2	
R0023		VRE0034E330	M.RESISTOR CH 1/10W 33	1	
SW0001		VST0120	SWITCH	1	
SW0002,03		VST0121	SWITCH	2	
SW0004		VST0122	SWITCH	1	
SW0005,06		VST0120	SWITCH	2	
SW0007		VST0124	SWITCH	1	
VR0001		VRV0069B103	V.RESISTOR 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20309A	P.C.BOARD W/COMPONENT		
			LEFT SIDE SW		
	■	VEP20312A	P.C.BOARD W/COMPONENT		ON VEP20309A
			LEFT SIDE SW SUB		
			CAPACITORS		
C0031		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C0041		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
P0102		VJP2739A010	CONNECTOR (MALE)	1	
			RESISTORS		
R0030		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0031		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0032		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0033		VRE0034E133	M.RESISTOR CH 1/10W 13K	1	
R0034		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0036		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0037		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0038		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0039,40		VRE0034E133	M.RESISTOR CH 1/10W 13K	2	
R0041		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0042		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0043		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0044		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
SW0031		VSR0079	SWITCH	1	
SW0032		VSR0070	SWITCH	1	
SW0033		VSP0487	SWITCH	1	
			MISCELLANEOUS		
		VMP2459	P.C.B. HOLDER ANGLE	1	
	■	VEP20361A	P.C.BOARD W/COMPONENT		
			79P		
D0001		MA151K	DIODE	1	
J0107		VJP1893	CONNECTOR (MALE)	1	
P0109		VJP2739B005	CONNECTOR (MALE)	1	
P0111		VJP2741B014	CONNECTOR (MALE)	1	
P0112		VJP2741B008	CONNECTOR (MALE)	1	
P0120		VJP2741B016	CONNECTOR (MALE)	1	
P0121		VJP2741B022	CONNECTOR (MALE)	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R0001		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
			MISCELLANEOUS		
		VJP2757	CONNECTOR (MALE)	79	
	■	VEP24011A	P.C.BOARD W/COMPONENT		
			MIC		
			MISCELLANEOUS		
		VMP2428	P.C.B. HOLDER ANGLE	1	
			CAPACITORS		
C4061		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C4062		ECEA1CGE331	E.CAPACITOR 16V 330U	1	
			RESISTORS		
R4061		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R4062		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4063,64		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
SW4061		VSS0157	SWITCH	1	
	■	VEP20340B	P.C.BOARD W/COMPONENT		
			OG ADJ		
			RESISTORS		
R1		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R2		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R3		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R4		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
VR1-R3		VRV0113B203	T.RESISTOR 20K	3	
	■	VEP20297A	P.C.BOARD W/COMPONENT		
			BRAKER		
			MISCELLANEOUS		
		VMP2428	P.C.B. HOLDER ANGLE	1	
		VSQ0814	BRAKER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks

ELECTRICAL PARTS LIST (PAL)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP20360B	P.C.BOARD W/COMPONENT	1	
			MOTHER		
		VEP25010C	P.C.BOARD W/COMPONENT	1	
			PRE AMP		
		VEP23105A	P.C.BOARD W/COMPONENT	1	
			PRE PROCESS		
		VEP23130A	P.C.BOARD W/COMPONENT	1	
			DIGITAL PROCESS		
		VEP23106B	P.C.BOARD W/COMPONENT	1	
			ENCODER		
		VEP20303G	P.C.BOARD W/COMPONENT	1	
			PULSE		
		VEP20392A	P.C.BOARD W/COMPONENT	1	
			PULSE SUB		
		VEP20302C	P.C.BOARD W/COMPONENT	1	
			CCD DRIVE		
		VEP26062C	P.C.BOARD W/COMPONENT	1	
			SYSTEM CONTROL		
		VEP20301B	P.C.BOARD W/COMPONENT	1	
			SYNC		
		VEP20313B	P.C.BOARD W/COMPONENT	1	ON VEP20301B
			SYNC SUB		
		VEP21097B	P.C.BOARD W/COMPONENT	1	
			POWER		
		VEP21099A	P.C.BOARD W/COMPONENT	1	
			POWER SUB		
		VEP20354A	P.C.BOARD W/COMPONENT	1	
			CCD MOUNT		
		VEP20306A	P.C.BOARD W/COMPONENT	1	
			FRONT SW		
		VEP20307A	P.C.BOARD W/COMPONENT	1	
			RIGHT SIDE SW		
		VEP20308A	P.C.BOARD W/COMPONENT	1	ON VEP20307A
			RIGHT SIDE SW SUB		
		VEP20309A	P.C.BOARD W/COMPONENT	1	
			LEFT SIDE SW		
		VEP20312A	P.C.BOARD W/COMPONENT	1	ON VEP20309A
			LEFT SIDE SW SUB		
		VEP20361B	P.C.BOARD W/COMPONENT	1	
			79P		
		VEP24017B	P.C.BOARD W/COMPONENT	1	
			MIC		
		VEP20340B	P.C.BOARD W/COMPONENT	1	
			OG ADJ		
		VEP20297A	P.C.BOARD W/COMPONENT	1	
			BRAKER		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20360B	P.C.BOARD W/COMPONENT		
			MOTHER		
			CAPACITORS		
C0001-04		ECUM1C105ZFN	C.CAPACITOR 16V 1U	4	
C0005		ECST1VX105	T.CAPACITOR 35V 1U	1	
C0006		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C0007		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
D0001		MA151K	DIODE	1	
D0002		EA60QC04F	DIODE	1	
J0301-04		VJS2744A040	CONNECTOR (FEMALE)	4	
P0304		VJS2907D020	CONNECTOR (FEMALE)	1	
P0306		VJP2741B010	CONNECTOR (MALE)	1	
P0307		VJP2741B018	CONNECTOR (MALE)	1	
P0308		VJS2907D018	CONNECTOR (FEMALE)	1	
P0309		VJP2741B026	CONNECTOR (MALE)	1	
P0312		VJP2741B022	CONNECTOR (MALE)	1	
P0313		VJP2741B006	CONNECTOR (MALE)	1	
Q0001		UN2211	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R0001		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R0002		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
	■	VEP25010C	P.C.BOARD W/COMPONENT		
			PRE AMP		
			CAPACITORS		
C5004		ECA1CKF270	E.CAPACITOR 16V 27U	1	
C5005		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5006		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C5007		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5101		ECST1CC106	T.CAPACITOR 16V 10U	1	
C5102		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5103,04		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5105		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5106,07		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5108		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5109		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C5111		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5112		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5113		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
C5114		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C5201		ECST1CC106	T.CAPACITOR 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5202		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5203,04		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5205		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5206,07		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5208		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5209		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C5211		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5212		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5213		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
C5214		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C5301		ECST1CC106	T.CAPACITOR 16V 10U	1	
C5302		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5303,04		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5305		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5306,07		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	2	
C5308		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5309		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C5311		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C5312		ECA1AKF390	E.CAPACITOR 10V 39U	1	
C5313		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
C5314		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
D5001		MA3047M	DIODE	1	
D5102		HZ2BLL	DIODE	1	
D5202		HZ2BLL	DIODE	1	
D5302		HZ2BLL	DIODE	1	
IC5001		RC431U	DIODE	1	
IC5002		LM2904M	IC	1	
P241-43		VJP2739A002	CONNECTOR (MALE)	3	
Q5001		2SB956	TRANSISTOR	1	(S)
Q5101		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5102		3SK157J15	TRANSISTOR	1	
Q5103		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5104		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5105		3SK157J15	TRANSISTOR	1	
Q5106		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5107		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5108		3SK157J15	TRANSISTOR	1	
Q5109		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5110		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5111		3SK157J15	TRANSISTOR	1	
Q5112		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5113		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5114		3SK157J15	TRANSISTOR	1	
Q5115		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5116		2SC3735B35	TRANSISTOR	1	
Q5117		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5118		2SC3735B35	TRANSISTOR	1	
Q5119		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5120		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q5121,22		2SA1462Y34	TRANSISTOR	2	
Q5123		2SB710	TRANSISTOR	1	(Q,R)
Q5201		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5202		3SK157J15	TRANSISTOR	1	
Q5203		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5204		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5205		3SK157J15	TRANSISTOR	1	
Q5206		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5207		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5208		3SK157J15	TRANSISTOR	1	
Q5209		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5210		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5211		3SK157J15	TRANSISTOR	1	
Q5212		2SC2295	TRANSISTOR CHIP	1	(B,C)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q5213		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5214		3SK157J15	TRANSISTOR	1	
Q5215		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5216		2SC3735B35	TRANSISTOR	1	
Q5217		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5218		2SC3735B35	TRANSISTOR	1	
Q5219		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5220		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q5221,22		2SA1462Y34	TRANSISTOR	2	
Q5301		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5302		3SK157J15	TRANSISTOR	1	
Q5303		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5304		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5305		3SK157J15	TRANSISTOR	1	
Q5306		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5307		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5308		3SK157J15	TRANSISTOR	1	
Q5309		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5310		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5311		3SK157J15	TRANSISTOR	1	
Q5312		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5313		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q5314		3SK157J15	TRANSISTOR	1	
Q5315		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5316		2SC3735B35	TRANSISTOR	1	
Q5317		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5318		2SC3735B35	TRANSISTOR	1	
Q5319		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q5320		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q5321,22		2SA1462Y34	TRANSISTOR	2	
			RESISTORS		
R5001		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R5002		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5003		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R5004		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5005		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R5006,07		VRE0034E563	M.RESISTOR CH 1/10W 56K	2	
R5008		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R5009		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R5010		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R5011		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
R5101		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R5102		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5103		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5104		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R5105		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5106		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5107		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5108		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5109		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5110		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5111		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5112		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5113		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5114		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5115		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5116		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5117		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5118		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5119		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5120		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5121		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5124		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5125		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5126		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5127		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5128		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R5129-31		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	3	
R5132,33		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R5134		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5136		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R5137		VRE0034E561	M.RESISTOR CH 1/10W 560	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R5139		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R5140		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R5201		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R5202		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5203		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5204		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R5205		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5206		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5207		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5208		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5209		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5210		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5211		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5212		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5213		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5214		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5215		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5216		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5217		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5218		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5219		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5220		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5221		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5224		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5225		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5226		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R5227		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5228		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R5229-31		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	3	
R5232,33		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R5234		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5239		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R5301		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R5302		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R5303		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5304		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R5305		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5306		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5307		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5308		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5309		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5310		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5311		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R5312		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5313		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5314		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5315		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5316		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5317		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R5318		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5319		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R5320		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R5321		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5324		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R5325		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5326		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R5327		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R5328		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R5329		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R5330,31		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	2	
R5332,33		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R5334		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R5339		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
TP5001-05		VJR0460	TEST POINT	5	
TP5101-03		VJR0460	TEST POINT	3	
TP5201-03		VJR0460	TEST POINT	3	
TP5301-03		VJR0460	TEST POINT	3	
TPG5001,02		VJR0236B	TEST POINT	2	
VC101		ECV1ZW30K53	V.CAPACITOR 30P	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VC201		ECV1ZW30X53	V.CAPACITOR 30P	1	
VC301		ECV1ZW30X53	V.CAPACITOR 30P	1	
VR5101		VRV0113B502	T.RESISTOR 5K	1	
VR5102		VRV0113B203	T.RESISTOR 20K	1	
VR5201		VRV0113B502	T.RESISTOR 5K	1	
VR5202		VRV0113B203	T.RESISTOR 20K	1	
VR5301		VRV0113B502	T.RESISTOR 5K	1	
VR5302		VRV0113B203	T.RESISTOR 20K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP23105A	P.C.BOARD W/COMPONENT		
			PRE PROCESS		
			CAPACITORS		
C3001		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3002		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3003		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3005		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3006		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3007		ECST1VY104	T.CAPACITOR 35V 0.1U	1	
C3008-10		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3011,12		ECST1VY104	T.CAPACITOR 35V 0.1U	2	
C3013		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3014		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3015,16		ECST1VY104	T.CAPACITOR 35V 0.1U	2	
C3017		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3018		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3019		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3020		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3021		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3023		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3024		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C3101		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3102		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3103		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3104		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3106		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3107,08		ECST1AC106	T.CAPACITOR 10V 10U	2	
C3109		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3110		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3112		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C3113		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3114		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3115,16		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3120		ECSF1VE104	T.CAPACITOR 35V 0.1U	1	
C3122		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3123		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C3124		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3125,26		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C3127,28		ECSF1AE106	T.CAPACITOR 10V 10U	2	
C3129		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C3130		ECUM1H010DCN	C.CAPACITOR CH 50V 1P	1	
C3132		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3201		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3202		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3203		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3204		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3206		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3207,08		ECST1AC106	T.CAPACITOR 10V 10U	2	
C3209		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3210		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3212		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C3213		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3214		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3215,16		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3220		ECSF1VE104	T.CAPACITOR 35V 0.1U	1	
C3222		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3223		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C3224		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3225,26		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C3227,28		ECSF1AE106	T.CAPACITOR 10V 10U	2	
C3229		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C3230		ECUM1H010DCN	C.CAPACITOR CH 50V 1P	1	
C3232		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3301		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3302		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3303		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3304		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3306		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3307,08		ECST1AC106	T.CAPACITOR 10V 10U	2	
C3309		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3310		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3312		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C3313		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3314		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3315,16		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3320		ECSF1VE104	T.CAPACITOR 35V 0.1U	1	
C3322		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3323		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C3324		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3325,26		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C3327,28		ECSF1AE106	T.CAPACITOR 10V 10U	2	
C3329		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C3330		ECUM1H010DCN	C.CAPACITOR CH 50V 1P	1	
C3332		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
CN3001		VJP27448040	CONNECTOR (MALE)	1	
D3002-04		MA3024	DIODE	3	
D3005		MA3047M	DIODE	1	
D3100-02		MA151K	DIODE	3	
D3200-02		MA151K	DIODE	3	
D3300-02		MA151K	DIODE	3	
FL3100		VLF0828	FILTER	1	
FL3200		VLF0828	FILTER	1	
FL3300		VLF0828	FILTER	1	
IC3001		VCR0306	IC	1	
IC3004,05		LM2904M	IC	2	
IC3006		RC431U	DIODE	1	
IC3007		TL062CPS	IC	1	
IC3100		TL062CPS	IC	1	
IC3101		MC1595L	IC	1	
IC3102		VCR0307	IC	1	
IC3200		TL062CPS	IC	1	
IC3201		MC1595L	IC	1	
IC3202		VCR0307	IC	1	
IC3300		TL062CPS	IC	1	
IC3301		MC1595L	IC	1	
IC3302		VCR0307	IC	1	
Q3001		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q3003		2SD1280	TRANSISTOR	1	(S,T)
Q3004,05		2SB956	TRANSISTOR	2	(S)
Q3006		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q3100-02		2SC3735B35	TRANSISTOR	3	
Q3103,04		2SK321	TRANSISTOR	2	(Q,R)
Q3106		2SK321	TRANSISTOR	1	(Q,R)
Q3107,08		2SC3735B35	TRANSISTOR	2	
Q3109		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3110		2SK94-X4	TRANSISTOR	1	
Q3112		2SA1462	TRANSISTOR	1	
Q3113		2SA1461	TRANSISTOR	1	
Q3200-02		2SC3735B35	TRANSISTOR	3	
Q3203,04		2SK321	TRANSISTOR	2	(Q,R)
Q3206		2SK321	TRANSISTOR	1	(Q,R)
Q3207,08		2SC3735B35	TRANSISTOR	2	
Q3209		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3210		2SK94-X4	TRANSISTOR	1	
Q3211		2SK321	TRANSISTOR	1	(Q,R)
Q3212		2SA1462	TRANSISTOR	1	
Q3213		2SA1461	TRANSISTOR	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q3300-02		2SC3735B35	TRANSISTOR	3	
Q3303,04		2SK321	TRANSISTOR	2	(Q,R)
Q3306		2SK321	TRANSISTOR	1	(Q,R)
Q3307,08		2SC3735B35	TRANSISTOR	2	
Q3309		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3310		2SK94-X4	TRANSISTOR	1	
Q3312		2SA1462	TRANSISTOR	1	
Q3313		2SA1461	TRANSISTOR	1	
			RESISTORS		
R3024		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3025		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3026		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3027		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3028		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3029		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3030		ERJ6GEYJ395	M.RESISTOR CH 1/10W 3.9M	1	
R3031		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3032		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3033		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3034		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3035		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R3036		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3037		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3038		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3039		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3040		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3042		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R3043		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3044		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3045		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3046		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3047		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3048		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3049		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3050		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R3051		VRE0034E113	M.RESISTOR CH 1/10W 11K	1	
R3100		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3101		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3102		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3103		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3104		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3105		VRE0034E511	RESISTOR	1	
R3106		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R3107		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3108		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3109		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3110		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3111		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R3112		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R3113		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3115		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3116		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3117		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3118		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3119		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3120		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3121		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
R3122		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3123		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3124		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3125,26		VRE0034E183	M.RESISTOR CH 1/10W 18K	2	
R3127		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3128		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3129		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3130		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3131		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3132		VRE0034E511	RESISTOR	1	
R3133		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3134,35		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	2	
R3137		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3138		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3140		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3142		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R3143		VRE0034E620	M.RESISTOR CH 1/10W 62	1	
R3144		VRE0034E511	RESISTOR	1	
R3145		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3146		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3147		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3148		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R3149		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3150		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3152		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3153		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3154		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3155		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3163		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3164		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3165		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3200		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3201		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3202		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3203		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3204		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3205		VRE0034E511	RESISTOR	1	
R3206		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R3207		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3208		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3209		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3210		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3211		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R3212		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R3213		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3215		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3216		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3217		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3218		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3219		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3220		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3221		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R3222		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3223		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3224		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3227		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3228		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3229		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3230		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3231		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3232		VRE0034E511	RESISTOR	1	
R3233		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3234,35		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	2	
R3237		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3238		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3240		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3242		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R3243		VRE0034E620	M.RESISTOR CH 1/10W 62	1	
R3244		VRE0034E511	RESISTOR	1	
R3245		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3246		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3247		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3248		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R3249		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3250		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3252		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3253		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3254		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3255		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3256		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R3257		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R3258		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	1	
R3259		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3260		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R3263		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3264		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3265		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3300		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3301		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3302		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3303		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3304		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3305		VRE0034E511	RESISTOR	1	
R3306		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R3307		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3308		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3309		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3310		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3311		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R3312		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R3313		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3315		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3316		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3317		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3318		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3319		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3320		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3321		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
R3322		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3323		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3324		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3325,26		VRE0034E183	M.RESISTOR CH 1/10W 18K	2	
R3327		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3328		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3329		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3330		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3331		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3332		VRE0034E511	RESISTOR	1	
R3333		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R3334,35		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	2	
R3337		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3338		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R3340		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3342		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R3343		VRE0034E620	M.RESISTOR CH 1/10W 62	1	
R3344		VRE0034E511	RESISTOR	1	
R3345		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3346		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3347		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3348		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R3349		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3350		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3352		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3353		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3354		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3355		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R3363		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3364		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3365		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
TP3100,01		VJR0460	TEST POINT	2	
TP3200,01		VJR0460	TEST POINT	2	
TP3300,01		VJR0460	TEST POINT	2	
VR3100		VRV0062B501	V.RESISTOR 500	1	
VR3101		VRV0062B102	V.RESISTOR 1K	1	
VR3102		VRV0062B503	V.RESISTOR 50K	1	
VR3103		VRV0062B204	V.RESISTOR 200K	1	
VR3104		VRV0062B102	V.RESISTOR 1K	1	
VR3105		VRV0062B103	V.RESISTOR 10K	1	
VR3200		VRV0062B501	V.RESISTOR 500	1	
VR3201		VRV0062B102	V.RESISTOR 1K	1	
VR3202		VRV0062B503	V.RESISTOR 50K	1	
VR3203		VRV0062B204	V.RESISTOR 200K	1	
VR3204		VRV0062B102	V.RESISTOR 1K	1	
VR3300		VRV0062B501	V.RESISTOR 500	1	
VR3301		VRV0062B102	V.RESISTOR 1K	1	
VR3302		VRV0062B503	V.RESISTOR 50K	1	
VR3303		VRV0062B204	V.RESISTOR 200K	1	
VR3304		VRV0062B102	V.RESISTOR 1K	1	
VR3305		VRV0062B103	V.RESISTOR 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VMP2424	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP23130A	P.C.BOARD W/COMPONENT		
			DIGITAL PROCESS		
			CAPACITORS		
C3001-04		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C3005,06		ECA0JKF470	E.CAPACITOR 6.3V 47U	2	
C3007-15		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	9	
C3016		ECA0JKF470	E.CAPACITOR 6.3V 47U	1	
C3017		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3019-47		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	29	
C3048		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3049		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3054-57		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C3059,60		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
D3001		MA3024	DIODE	1	
D3002		NJM431U	IC	1	
IC3001		VC5776	IC	1	
IC3002		VC5727	IC	1	
IC3003		VC5777	IC	1	
IC3004		VC5778	IC	1	
IC3005		NJM2904M	IC	1	
IC3006-08		CXD1175AM	IC	3	
IC3009-13		MB40760PF	IC	5	
IC3014		74AC04SJ	IC	1	
IC3015		74AC08SJ	IC	1	
IC3016-19		74AC245SJ	IC	4	
IC3020		TL062CPS	IC	1	
IC3021		TC7S04F	IC	1	
L3001		VLQ0409K470	COIL 47UH	1	
L3002-04		VLP0017	COIL	3	
P3341		VJP2741B016	CONNECTOR (MALE)	1	
P3342		VJP2741B022	CONNECTOR (MALE)	1	
P3343,44		VJP2509	CONNECTOR (MALE)	2	
P3345		VJP2739B004	CONNECTOR (MALE)	1	
P3346		VJP2739B014	CONNECTOR (MALE)	1	
P3347		VJP2739B010	CONNECTOR (MALE)	1	
P3348		VJP2739B003	CONNECTOR (MALE)	1	
Q3001		2SB956	TRANSISTOR	1	(S)
Q3002-06		2SC2295	TRANSISTOR CHIP	5	(B,C)
			RESISTORS		
R3001		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R3002,03		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R3004		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3005		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3006		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3007,08		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	2	
R3013,14		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3015		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3016		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R3017		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3018,19		VRE0034E220	M.RESISTOR CH 1/10W 22	2	
R3020.21		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	2	
R3022		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R3023		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3024		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R3025		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3026		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3027		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3029,30		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3032		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3033		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R3034		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3035-69		VRE0034E470	M.RESISTOR CH 1/10W 47	35	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP23106B	P.C.BOARD W/COMPONENT		
			ENCODER		
			CAPACITORS		
C3001		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3002		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3003		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3004		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3006		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3007		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3010.11		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C3012-16		ECA0JKF121	E.CAPACITOR 6.3V 120U	5	
C3017		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3018		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3019		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3020		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3021		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3022		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3023		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3024		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3025		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3027		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3028		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C3030		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3031		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3032		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3033,34		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C3035		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3036		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C3039		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3040		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3041		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3042		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3043		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3045		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C3046		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3047		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3048		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3050		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3051		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3052-55		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	4	
C3056		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3057		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3058		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C3061		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3062		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3063		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3065		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3066		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C3067		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3068		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3069		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3070		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3072		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3073		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C3074		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3075-78		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	4	
C3079		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C3080		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3082		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3083		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3084		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3086		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3087		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3089		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3090,91		ECA1EKF100	E.CAPACITOR 25V 10U	2	
C3092-94		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	3	
C3095		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3097,98		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C3099		VCC0035	P.CAPACITOR	1	
C3100		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3101		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3102-04		ECUM1H152JN	C.CAPACITOR CH 50V 1500P	3	
C3105		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C3106		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3107		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3108-10		ECA0JKF121	E.CAPACITOR 6.3V 120U	3	
C3115		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C3116		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3117		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3118		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3119		ECUM1H090DCN	C.CAPACITOR CH 50V 9OP	1	
C3120		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3124.25		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	2	
C3126-28		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3129		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3130		ECUM1H020DCN	C.CAPACITOR CH 50V 2P	1	
C3131		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
D3001,02		MA153	DIODE	2	
D3003,04		MA3024	DIODE	2	
D3005,06		MA3047	DIODE	2	
DL3001		VLD0216	DELAY	1	
IC3001		AD847JR	IC	1	
IC3002,03		TL061CPS	IC	2	
IC3004		NJM1496M	IC	1	
IC3005		TL062CPS	IC	1	
IC3006		TL061CPS	IC	1	
IC3007,08		NJM1496M	IC	2	
IC3009		TL062CPS	IC	1	
IC3010		MC14053BF	IC	1	(R)
IC3011		RC431U	DIODE	1	
IC3012		AD847JR	IC	1	
JP3001		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L3001		VLQEL05F3R3J	COIL 3.3UH	1	
L3002		VLQEL05F101J	COIL 100UH	1	
L3003		VLQEL05F470J	COIL 47UH	1	
L3005		VLQEL05F331J	COIL 330UH	1	
L3007		VLQEL05F331J	COIL 330UH	1	
L3008,09		VLQEL05F470J	COIL 47UH	2	
L3010		VLQEL05F3R9J	COIL 3.9UH	1	
L3011		VLQEL05F150J	COIL 15UH	1	
L3012		VLQEL05F120J	COIL 12UH	1	
L3013		VLQEL05F180J	COIL 18UH	1	
L3014,15		VLQ0467J120	COIL 12UH	2	
P3302		VJP2744B040	CONNECTOR (MALE)	1	
Q3001-04		2SC2295	TRANSISTOR CHIP	4	(B,C)
Q3005		2SC3734B24	TRANSISTOR	1	
Q3006		2SB621	TRANSISTOR	1	(Q,R)
Q3007		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q3008,09		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q3010,11		2SC3734B24	TRANSISTOR	2	
Q3012-17		2SC2295	TRANSISTOR CHIP	6	(B,C)

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q3018		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q3019,20		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q3021		2SK94-X4	TRANSISTOR	1	
Q3022		2SB956	TRANSISTOR	1	(S)
Q3023		2SD1280	TRANSISTOR	1	(S,T)
Q3024-26		2SC2295	TRANSISTOR CHIP	3	(B,C)
Q3027		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q3028,29		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q3030		2SK94-X4	TRANSISTOR	1	
Q3031-36		2SC3734B24	TRANSISTOR	6	
Q3037-40		2SC2295	TRANSISTOR CHIP	4	(B,C)
Q3041		2SC3734B24	TRANSISTOR	1	
Q3043		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3044		MSC2295-B	IC	1	
			RESISTORS		
R3001,02		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3003		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3004		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3006		VRE0034E622	M.RESISTOR CH 1/10W 6,2K	1	
R3007,08		VRE0034E621	M.RESISTOR CH 1/10W 620	2	
R3010		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3011		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R3012		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3013		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3014,15		VRE0034E511	RESISTOR	2	
R3016		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3017		VRE0034E910	M.RESISTOR CH 1/10W 91	1	
R3018		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3020		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3021		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3022		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R3023		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3024		VRE0034E511	RESISTOR	1	
R3025		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3026		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3027		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3028		VRE0034E513	M.RESISTOR CH 1/10W 5,1K	1	
R3029		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3030,31		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3034		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3035		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R3037		VRE0034E361	M.RESISTOR CH 1/10W 360	1	
R3038		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3040		VRE0034E361	M.RESISTOR CH 1/10W 360	1	
R3041		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3042		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3043		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3044		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3045		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3046		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R3048		VRE0034E152	M.RESISTOR CH 1/10W 1,5K	1	
R3049		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3050		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3051,52		VRE0034E621	M.RESISTOR CH 1/10W 620	2	
R3053		VRE0034E133	M.RESISTOR CH 1/10W 13K	1	
R3054		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3055		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R3056		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R3057		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3058		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3059		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3060		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R3061		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3062		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3063		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3065		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3066		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3067,68		VRE0034E222	M.RESISTOR CH 1/10W 2,2K	2	
R3069		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3070		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3071		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3072		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R3073		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3074		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3076		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3077		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3078		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3079		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3080		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R3081		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3082		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3083		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3084		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3085		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3086		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3087		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R3088		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3089		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R3090		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R3091		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R3092		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3094		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R3095,96		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3097		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3098		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3099		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3100		VRE0034E162	M.RESISTOR CH 1/10W 1,6K	1	
R3101		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3102		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3103		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3105		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R3106		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3107		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3108		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3109		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R3110		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3111		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3112		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3113,14		VRE0034E511	RESISTOR	2	
R3115		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3116		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R3117		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3118		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3120		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3121		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3122		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R3123		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3124,25		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3126		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3127		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3128		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3129		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3130		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R3131		VRE0034E361	M.RESISTOR CH 1/10W 360	1	
R3132		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R3133		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R3134		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3135		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R3136		VRE0034E161	M.RESISTOR CH 1/10W 160	1	
R3137		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3138		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R3139,40		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	2	
R3141		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3142		VRE0034E242	M.RESISTOR CH 1/10W 2.4K	1	
R3143		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3144		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3145		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3146		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R3147		VRE0034E622	M.RESISTOR CH 1/10W 6,2K	1	
R3148		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R3149		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R3150		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3151		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3152		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R3153		VRE0034E912	M.RESISTOR CH 1/10W 9,1K	1	
R3154		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3155,56		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3157		VRE0034E511	RESISTOR	1	
R3158		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R3159		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3160		ERSA39J102	THERMISTOR	1	
R3161,62		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R3163		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3164		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3165		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3166		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3167		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R3168		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R3169		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3170		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3171		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3172		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3173		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3174		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3175		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3176		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3177		VRE0034E753	M.RESISTOR CH 1/10W 75K	1	
R3178		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3179		VRE0034E823	M.RESISTOR CH 1/10W 82K	1	
R3180		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R3181		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3182		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3183		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R3184		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R3185		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R3186		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R3187		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3188		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3189		VRE0034E113	M.RESISTOR CH 1/10W 11K	1	
R3190		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R3191		VRE0055E620	M.RESISTOR 1/4W 62	1	
R3192		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3193		VRE0034E511	RESISTOR	1	
R3195		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3196		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3197		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3198		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R3199		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R3200		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3201		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R3202		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3203		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R3204		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R3205		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3206		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R3207		ERJ6GEYJ395	M.RESISTOR CH 1/10W 3.9M	1	
R3208		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R3209		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3210		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3211		VRE0034E751	M.RESISTOR CH 1/10W 750	1	
SW3001-04		VJP1940	CONNECTOR SWITCH	4	
TH3001		ERSA39J102	THERMISTOR	1	
TP3001-08		VJR0460	TEST POINT	8	
VC3001,02		ECV1ZW30X53	V.CAPACITOR 30P	2	
VR3001		VRV0062B502	V.RESISTOR 5K	1	
VR3002		VRV0062B101	V.RESISTOR 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR3003		VRV0069B102	V.RESISTOR 1K	1	
VR3004		VRV0062B101	V.RESISTOR 100	1	
VR3005		VRV0062B502	V.RESISTOR 5K	1	
VR3006		VRV0062B501	V.RESISTOR 500	1	
VR3007		VRV0069B102	V.RESISTOR 1K	1	
VR3008		VRV0062B202	V.RESISTOR 2K	1	
VR3010		VRV0062B202	V.RESISTOR 2K	1	
VR3011		VRV0069B503	V.RESISTOR 50K	1	
VR3012		VRV0062B103	V.RESISTOR 10K	1	
VR3013		VRV0062B202	V.RESISTOR 2K	1	
VR3015		VRV0062B102	V.RESISTOR 1K	1	
VR3016		VRV0069B503	V.RESISTOR 50K	1	
VR3017		VRV0062B103	V.RESISTOR 10K	1	
VR3018		VRV0062B202	V.RESISTOR 2K	1	
VR3019,20		VRV0062B203	V.RESISTOR 20K	2	
VR3021		VRV0062B502	V.RESISTOR 5K	1	
VR3022		VRV0062B103	V.RESISTOR 10K	1	
VR3023		VRV0062B101	V.RESISTOR 100	1	
VR3024		VRV0062B103	V.RESISTOR 10K	1	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	4	
		VMP2425	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20303G	P.C.BOARD W/COMPONENT		
			PULSE		
	■	VEP20392A	P.C.BOARD W/COMPONENT		
			PULSE SUB		
			CAPACITORS		
C0001		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0003		ECST1AX475	T.CAPACITOR 10V 4.7U	1	
C0004		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0005		ECST1CD336	T.CAPACITOR 16V 33U	1	
C0006		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0007		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0008		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C0009-12		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	4	
C0013		ECWV1E333JS	P.CAPACITOR 25V 0.033U	1	
C0014		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C0015		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0016		ECST1CC106	T.CAPACITOR 16V 10U	1	
C0017		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C0018		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0019		ECUM1H821JN	C.CAPACITOR CH 50V 820P	1	
C0020		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0021		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0022		ECA1AFQ272	E.CAPACITOR 10V 2700U	1	
C0023		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0024		ECST1CD336	T.CAPACITOR 16V 33U	1	
C0025		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0026		ECA1EFQ820	E.CAPACITOR 25V 82U	1	
C0027		ECA1EFQ181	E.CAPACITOR 25V 180U	1	
C0028		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0029,30		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0031		ECST1CC106	T.CAPACITOR 16V 10U	1	
C0032		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C0033		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C0034-36		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C0037		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C0038		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0039		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C0040		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0041		ECCF1H180JC	C.CAPACITOR 50V 18P	1	
D0001		MA3024	DIODE	1	
D0002		MA3047M	DIODE	1	
D0003,04		MA3068M	DIODE	2	
IC0001		MN53020XXB	IC	1	
IC0002		MN53003XCU	IC	1	
IC0003		MC74HC4538F	IC	1	
IC0004,05		MC74HC04AF	IC	2	
IC0006		N74F08D	IC	1	
IC0007,08		NJM2904M	IC	2	
IC0009		NJM431U	IC	1	
IC0010		MC74HC00AF	IC	1	
IC0011		MC74HC164F	IC	1	
IC0012		CXD1251Q	IC	1	
IC0014		MC74HC164F	IC	1	
IC0015		TC7S00F	IC	1	
IC0016		NJM2406F	IC	1	
IC0017		MC14517BCP	IC	1	
L0001		VLQEL05F330K	COIL 33UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P230		VJS2818B29	CONNECTOR (FEMALE)	1	
P231		VJP2741A016	CONNECTOR (MALE)	1	
P233		VJP2741A006	CONNECTOR (MALE)	1	
Q0001		2SK94-X4	TRANSISTOR	1	
Q0002,03		2SB956	TRANSISTOR	2	(S)
Q0004,05		2SB710	TRANSISTOR	2	(R,S)
Q0006,07		2SC3735B35	TRANSISTOR	2	
Q0008		2SB779	TRANSISTOR	1	(R,S)
			RESISTORS		
R0001		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R0002		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0003-06		VRE0034E102	M.RESISTOR CH 1/10W 1K	4	
R0007		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0008		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R0009		VRE0034E560	M.RESISTOR CH 1/10W 56	1	
R0010		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0011-14		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	4	
R0019		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0022		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0027		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0028		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0029		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0030		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0031,32		VRE0034E223	M.RESISTOR CH 1/10W 22K	2	
R0033		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0034		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0035		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0036		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R0037		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0038		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0039		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0040		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R0041		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0042		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0043		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0044		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R0045		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0046,47		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0048,49		VRE0034E391	M.RESISTOR CH 1/10W 390	2	
R0050		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0051		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0053		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0054-57		VRE0034E104	M.RESISTOR CH 1/10W 100K	4	
R0058,59		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	2	
R0060		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R0061,62		VRE0034E563	M.RESISTOR CH 1/10W 56K	2	
R0063		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0064		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
VR0001-06		VRV0069B501	V.RESISTOR 500	6	
X0001		VSX0361	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJR0422	PIN	4	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20302C	P.C.BOARD W/COMPONENT		
			CCD DRIVE		
			CAPACITORS		
C0001		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C0002		ECA1EFQ821	E.CAPACITOR 25V 820U	1	
C0003		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C0004		ECA1EFQ221	E.CAPACITOR 25V 220U	1	
C0005		ECST1VX105	T.CAPACITOR 35V 1U	1	
C0006		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C0007		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C0008		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0009		ECA1AFQ820	E.CAPACITOR 10V 82U	1	
C0010		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C0011		ECA1CFQ152	E.CAPACITOR 16V 1500U	1	
C0012		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0013		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0014		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0015		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0016		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0017		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0018		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0019		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C0020		ECST1VD685	T.CAPACITOR 35V 0.68U	1	
C0021		ECST1EC335	T.CAPACITOR 25V 3.3U	1	
C0022,23		ECA1VFQ270	E.CAPACITOR 35V 27U	2	
C0024		ECA1AFQ820	E.CAPACITOR 10V 82U	1	
C0031		ECST1ED106	T.CAPACITOR 25V 10U	1	
C0032,33		ECST1CD336	T.CAPACITOR 16V 33U	2	
C0034		VCEA1AAP101	E.CAPACITOR 10V 100U	1	
C0036		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0037		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0038		ECA1VFQ180	E.CAPACITOR 35V 18U	1	
C0039		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C0040		ECEA1HFE100	E.CAPACITOR 50V 10U	1	
C0041		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0042,43		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0044		ECA1EFQ390	E.CAPACITOR 25V 39U	1	
C0045		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0046,47		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0048		ECA1EFQ390	E.CAPACITOR 25V 39U	1	
C0049		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0050,51		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0052		ECA1EFQ390	E.CAPACITOR 25V 39U	1	
C0053,54		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C0055		ECSF1CE106	T.CAPACITOR 16V 10U	1	
D0001		MA3024	DIODE	1	
D0002-05		MA3047M	DIODE	4	
D0006		MA704A	DIODE	1	
D0007		MA152K	DIODE	1	
D0008		MA153	DIODE	1	
D0009		MA152K	DIODE	1	
D0010		MA3068M	DIODE	1	
D0011		MA152K	DIODE	1	
D0012		MA3068M	DIODE	1	
D0013		MA152K	DIODE	1	
D0014		MA3068M	DIODE	1	
D0015		MA720	DIODE	1	
D0016		MA151K	DIODE	1	
IC0001		NJM431U	IC	1	
IC0002		NJM2904M	IC	1	
IC0003		NJM431U	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC0004,05		NJM2904M	IC	2	
IC0006		NJM431U	IC	1	
IC0007-09		EHDHA6474	IC	3	
IC0011		UPD6147G	IC	1	
IC0012		MN3107CS	IC	1	
IC0013		UPD6147G	IC	1	
IC0014		MN3107CS	IC	1	
IC0015		UPD6147G	IC	1	
IC0016		MN3107CS	IC	1	
IC0017,18		NJM2904M	IC	2	
J3		VEVAN20KK		1	#J
J0221-23		VJS2725A018	CONNECTOR (FEMALE)	3	
L0001		VLQEL05F150J	COIL 15UH	1	
Q0001		2SD1280	TRANSISTOR	1	(S,T)
Q0002		2SB956	TRANSISTOR	1	(S)
Q0003-07		2SD602	TRANSISTOR	5	(R,S)<R>
Q0008,09		2SC3734B24	TRANSISTOR	2	
Q0010		2SA1608Y14	TRANSISTOR	1	
Q0011		IRFS1Z0	TRANSISTOR	1	
Q0012		2SA1608Y14	TRANSISTOR	1	
Q0013		IRFS1Z0TRR	TRANSISTOR	1	
Q0014		2SA1608Y14	TRANSISTOR	1	
Q0015		IRFS1Z0	TRANSISTOR	1	
			RESISTORS		
R0001		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0002		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0003		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R0004		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R0005		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0006		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R0007		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0008		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0009,10		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R0011		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R0012		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R0013		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0014		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0015,16		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R0017		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0018		VRE0034E150	M.RESISTOR CH 1/10W 15	1	
R0019		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0020		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0021		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0022		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
R0023		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0024		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0025		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R0026		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R0027		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0028		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0029		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R0030		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R0031		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0032		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0033		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R0034		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R0035		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0036		ERJ6GEYJ134	M.RESISTOR CH 1/10W 130K	1	
R0037		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0038		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R0039		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R0040		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0041		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0042		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0043		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0044		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R0045		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0046		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R0047		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0048		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0049		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R0050		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0051		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0052		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0053		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R0054		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0055		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0056		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0057		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R0058		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R0059-61		VRE0034E220	M.RESISTOR CH 1/10W 22	3	
R0062-64		VRE0034E331	M.RESISTOR CH 1/10W 330	3	
SW0001		VST0148	SWITCH	1	
TP0001-04		VJR0460	TEST POINT	4	
TP0006		VJR0460	TEST POINT	1	
TPG0001,02		VJR0236B	TEST POINT	2	
VR0004-06		VRV0113B203	T.RESISTOR 20K	3	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	
		VMZ1688	BARRIER	3	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP26062C	P.C.BOARD W/COMPONENT		
			SYSTEM CONTROL		
			CAPACITORS		
C6001		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C6002		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C6003		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C6004,05		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C6006,07		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C6008-10		ECST1VY104	T.CAPACITOR 35V 0.1U	3	
C6011-13		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C6014		ECST1VY104	T.CAPACITOR 35V 0.1U	1	
C6015-27		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	13	
C6028		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6029		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6030		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6031		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6032		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6033		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6034		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6035		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6036		ECST1CC106	T.CAPACITOR 16V 10U	1	
C6037,38		ECST1VY104	T.CAPACITOR 35V 0.1U	2	
C6039		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6040		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C6041		ECST1AC106	T.CAPACITOR 10V 10U	1	
C6042		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6043,44		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C6045,46		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C6047		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C6048-52		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	5	
C6053-55		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	3	
C6066-71		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	6	
C6072-74		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C6075		ECST1CY335	T.CAPACITOR 16V 3.3U	1	
C6076-79		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C6080		ECST1CC106	T.CAPACITOR 16V 10U	1	
C6081		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6083		ECST1CC106	T.CAPACITOR 16V 10U	1	
C6084		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6085-87		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C6088-93		ECST1CC106	T.CAPACITOR 16V 10U	6	
C6094-96		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C6097-99		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
D6001,02		MA3024	DIODE	2	
D6003		0A90	DIODE	1	
D6004-07		MA151K	DIODE	4	
IC6001		MN18865	IC	1	
IC6002		VSI1193	IC	1	
IC6002		MB27C512P15F	IC	1	
IC6003		UPD43256AGU	IC	1	
IC6004		HN58C65RFP25	IC	1	
IC6005		L7A0425	IC	1	
IC6006		MN1287BF	IC	1	
IC6007		MC74HC4053F	IC	1	
IC6008		MN1280P	IC	1	
IC6009,10		MC74HC4051F	IC	2	
IC6011		MC74HC4052F	IC	1	
IC6012		TL064CNS	IC	1	
IC6013		TL062CPS	IC	1	
IC6014		AN1358S	IC	1	
IC6015		NJM2904M	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC6017		NJM431U	DIODE	1	
IC6018		MC74HC08AF	IC	1	
IC6019		MB88346APF	IC	1	
IC6020,21		UPD43256AGU	IC	2	
IC6022,23		MC74HC245AF	IC	2	
IC6024,25		MB86023PF	IC	2	
IC6026		TL062CPS	IC	1	
IC6002F		VJF0949	IC HOLDER	1	
IC6002S		VJS3146Z028	IC SOCKET	1	
L6001		VLQ0409K470	COIL 47UH	1	
P6320		VJP2741B030	CONNECTOR (MALE)	1	
P6321		VJS2907D020	CONNECTOR (FEMALE)	1	
P6322		VJS2907D018	CONNECTOR (FEMALE)	1	
P6323,24		VJS2509	CONNECTOR (FEMALE)	2	
P6325		VJP2741B020	CONNECTOR (MALE)	1	
Q6001		2SB956	TRANSISTOR	1	(S)
Q6002		2SD1280	TRANSISTOR	1	(S,T)
Q6003		UN211E	TRANSISTOR	1	
Q6004-07		2SD601	TRANSISTOR CHIP	4	(Q,R)
			RESISTORS		
R6001		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R6002		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6003		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R6004		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R6005		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R6006		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6007		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R6008		ERJ6GEYJ395	M.RESISTOR CH 1/10W 3.9M	1	
R6009		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R6010		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6012		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6013		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R6014		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R6015		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6016		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R6017		ERJ6GEYJ155	M.RESISTOR CH 1/10W 1M	1	
R6018		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R6019		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R6020		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R6021		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R6022		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6023		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R6024-26		VRE0034E103	M.RESISTOR CH 1/10W 10K	3	
R6027		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R6028		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6029		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6030		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R6031		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R6032		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6033,34		VRE0034E473	M.RESISTOR CH 1/10W 47K	2	
R6035,36		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R6037,38		VRE0034E470	M.RESISTOR CH 1/10W 47	2	
R6039-42		VRE0034E473	M.RESISTOR CH 1/10W 47K	4	
R6043		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6044		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R6045		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6046-64		VRE0034E473	M.RESISTOR CH 1/10W 47K	19	
R6065-67		VRE0034E470	M.RESISTOR CH 1/10W 47	3	
R6068-70		VRE0034E473	M.RESISTOR CH 1/10W 47K	3	
R6071		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6072-78		VRE0034E102	M.RESISTOR CH 1/10W 1K	7	
R6079		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R6080		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6081-83		VREO034E473	M.RESISTOR CH 1/10W 47K	3	
R6084		VREO034E102	M.RESISTOR CH 1/10W 1K	1	
R6085-87		VREO034E101	M.RESISTOR CH 1/10W 100	3	
R6088		VREO034E102	M.RESISTOR CH 1/10W 1K	1	
R6089		VREO034E202	M.RESISTOR CH 1/10W 2K	1	
R6090,91		VREO034E223	M.RESISTOR CH 1/10W 22K	2	
R6092		VREO034E153	M.RESISTOR CH 1/10W 15K	1	
R6093		VREO034E561	M.RESISTOR CH 1/10W 560	1	
R6094		VREO034E101	M.RESISTOR CH 1/10W 100	1	
R6095		VREO034E470	M.RESISTOR CH 1/10W 47	1	
R6096-01		VREO034E102	M.RESISTOR CH 1/10W 1K	6	
R6102		VREO034E273	M.RESISTOR CH 1/10W 27K	1	
R6103		ERJ6GEYJ434	M.RESISTOR CH 1/10W 430K	1	
R6104		VREO034E104	M.RESISTOR CH 1/10W 100K	1	
R6105		VREO034E753	M.RESISTOR CH 1/10W 75K	1	
R6106		VREO034E303	M.RESISTOR CH 1/10W 30K	1	
R6107		VREO034E101	M.RESISTOR CH 1/10W 100	1	
R6108-10		VREO034E153	M.RESISTOR CH 1/10W 15K	3	
R6111-13		VREO034E152	M.RESISTOR CH 1/10W 1.5K	3	
R6114-19		VREO034E153	M.RESISTOR CH 1/10W 15K	6	
X6001		VSX0341	CRYSTAL OSCILLATOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20301B	P.C.BOARD W/COMPONENT		
			SYNC		
	■	VEP20313B	P.C.BOARD W/COMPONENT		ON VEP20301B
			SYNC SUB		
			CAPACITORS		
C0001		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C0002		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C0004		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0005		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C0006-08		ECST1AC106	T.CAPACITOR 10V 10U	3	
C0009-13		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	5	
C0014		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0015		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0019		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0020		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0021		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0022		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C0023		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0024		ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C0025		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0026,27		ECST1AY225	T.CAPACITOR 10V 2.2U	2	
C0028		ECA1CBK100	E.CAPACITOR 16V 10U	1	
C0029,30		ECA0JKF560	E.CAPACITOR 6.3V 56U	2	
C0031-33		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C0035		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0036		ECQM1H223JF	P.CAPACITOR 50V 0.022U	1	
C0037		ECA0JKF470	E.CAPACITOR 6.3V 47U	1	
C0038		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0039		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C0040		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C0041		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0042		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0043-45		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	3	
C0046		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0047		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C0048		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0049		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C0050		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C0051		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C0052		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0053		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0054		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C0055		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0056		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C0057		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C0058		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C0059		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C0060		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C0061		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C0062		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C0063		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C0064		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C0065		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C0066		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C0067		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C0068		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C0069,70		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0071		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C0072		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C0073		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C0075		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C0076		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C0077		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C0078		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C0079		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	1	
C0080,81		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0082		ECA1AKF820	E.CAPACITOR 10V 82U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C0083,84		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0085		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C0086		ECCF1H220JC	C.CAPACITOR 50V 22P	1	
C0087,88		ECST1AY225	T.CAPACITOR 10V 2.2U	2	
D0001		1SS154	DIODE	1	
D0002		1SS99	DIODE	1	
D0003		HZ5CLL	DIODE	1	
D0004		MA151K	DIODE	1	
D0005		RC431U	DIODE	1	
D0006		MA157	DIODE	1	
D0007		MA151WA	DIODE	1	
D0008		MA3047M	DIODE	1	
D0011		MA3047M	DIODE	1	
FL0001,02		VLF0906	FILTER	2	
IC0001,02		TL712CPS	IC	2	
IC0003		MC74HC00AF	IC	1	
IC0004		MC74HC04AF	IC	1	
IC0005		TL062CPS	IC	1	
IC0006		MC14052BF	IC	1	
IC0007		MN6761S	IC	1	
IC0008		MC74HC367F	IC	1	
IC0009		MC14053BF	IC	1	(R)
IC0010		UPD65022F210	IC	1	
IC0011		MC74HC08AF	IC	1	
IC0012		MC74HC4538F	IC	1	
IC0013		TC14S66F	IC	1	
IC0014		MC74HC7266F	IC	1	
IC0015		MC14557BF	IC	1	
IC0017		MC74HC02AF	IC	1	
IC0018		MC74HC4538F	IC	1	
IC0019		TC7S08F	IC	1	
IC0020		MC74HC10F	IC	1	
IC0021		MC74HC04AF	IC	1	
IC0022		MC14006BF	IC	1	
IC0023		MC74HC393F	IC	1	
IC0024		MC74HC74AF	IC	1	
IC0025		MC74HC02AF	IC	1	
IC0026,27		TL062CPS	IC	2	
IC0028		MC74HC393F	IC	1	
IC0029		TL062CPS	IC	1	
IC0030		TC7S08F	IC	1	
L0001		VLQ0163J470	COIL 47UH	1	
L0002		VLQ0417	COIL 10UH	1	
L0003		VLQ0163J121	COIL 120UH	1	
L0004		VLQ0163J560	COIL 56UH	1	
L0005		VLQ0163J101	COIL 100UH	1	
L0007		VLQ0163J560	COIL 56UH	1	
L0008		VLQ0163J101	COIL 100UH	1	
L0009		VLQ0163J120	COIL 12UH	1	
L0010		VLQ0163J560	COIL 56UH	1	
P0303		VJP2744B040	CONNECTOR (MALE)	1	
Q0001		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q0002-04		2SC2295	TRANSISTOR CHIP	3	(B,C)
Q0005		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q0006,07		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q0008		2SK94-X4	TRANSISTOR	1	
Q0009		2SC2295	TRANSISTOR CHIP	1	(B,C)

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q0010		2SD1280	TRANSISTOR	1	(S,T)
Q0012		2SB710	TRANSISTOR	1	(Q,R)
Q0013,14		2SC2295	TRANSISTOR CHIP	2	(B.C)
Q0015-17		2SA1022	TRANSISTOR CHIP	3	(B,C)
Q0018		2SB956	TRANSISTOR	1	(S)
Q0019		2SA1022	TRANSISTOR CHIP	1	(B,C)
Q0020,21		2SC3734B24	TRANSISTOR	2	
Q0022		2SA1461	TRANSISTOR	1	
Q0023		2SC3734B24	TRANSISTOR	1	
Q0024		2SA1461	TRANSISTOR	1	
Q0025		2SC3734B24	TRANSISTOR	1	
Q0026,27		2SC2295	TRANSISTOR CHIP	2	(B,C)
Q0028		2SC3735B35	TRANSISTOR	1	
Q0029,30		3SK157J15	TRANSISTOR	2	
			RESISTORS		
R0001		VRE0034E750	M.RESISTOR CH 1/10W 75	1	
R0002		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0003		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0004		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0005,06		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R0007		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0008		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0009		VRE0034E112	M.RESISTOR CH 1/10W 1.1K	1	
R0010,11		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R0012		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0013		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0014		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0015		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0016		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0017		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R0018		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0019		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0020		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0021		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R0022		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0023,24		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0025		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0026		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R0027		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0028		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R0029		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0030		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0031		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R0033,34		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0035		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R0036		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
R0037		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0038		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0039		VRE0034E302	M.RESISTOR CH 1/10W 3K	1	
R0040		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R0041		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0042		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0043		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R0044		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0045		ERSB27J103	THERMISTOR	1	
R0046		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0047,48		VRE0034E333	M.RESISTOR CH 1/10W 33K	2	
R0049		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R0050,51		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0052		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0053		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0054		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0055,56		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0057		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R0058		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0059		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R0060		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R0061		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0062-66		VRE0034E333	M.RESISTOR CH 1/10W 33K	5	
R0067		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0068		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0069		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0070		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R0071		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0072		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0073		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0074		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0075		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R0076		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0077		ERJ6GEYK395	M.RESISTOR CH 1/10W 3.9M	1	
R0078		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0079		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R0080		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0081		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0084		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0085		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0086,87		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0088		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0089		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R0090		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0091		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0092		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0093,94		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R0095		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R0097		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0098		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0099		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0100,01		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R0102		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0103		VRE0034E162	M.RESISTOR CH 1/10W 1.6K	1	
R0104		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R0105		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0106,07		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R0108		VRE0034E911	M.RESISTOR CH 1/10W 910	1	
R0109		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R0110		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R0111		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0112		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0113		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0114		VRE0034E752	M.RESISTOR CH 1/10W 7.5K	1	
R0115		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0116		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0117		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0118		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0119		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0120		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0121		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0122		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0123		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0124		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0125		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0126		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0127		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0128		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0129		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0130		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0131		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0132		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0133		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0134		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0135		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0136		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0137		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0138		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0139		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0140		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0141-44		VRE0034E104	M.RESISTOR CH 1/10W 100K	4	
R0145		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0146		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0147		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0148,49		VRE0034E104	M.RESISTOR CH 1/10W 100K	2	
R0150		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0151		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0152		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R0154		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0155		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0156		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0158		VRE0034E511	RESISTOR	1	
R0160		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0161		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0162		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R0163		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0164		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0165		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R0166		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R0167		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R0168		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	1	
R0169		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0170		VRE0034E622	M.RESISTOR CH 1/10W 6.2K	1	
R0171		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0175		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0178		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0182		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0185		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0188		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0191		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0193		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0197,98		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R0200,01		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R0203		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R0204		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
SW0001		VSS028602	SWITCH	1	
SW0002,03		VSS028606	SWITCH	2	
SW0004,05		VST0133	SWITCH	2	
TP0001,02		VJR0460	TEST POINT	2	
TPG0001		VJR0236B	TEST POINT	1	
VR0001		VRV0069B502	V.RESISTOR 5K	1	
VR0002		VRV0116B503	V.RESISTOR 50K	1	
VR0003		VRV0062B103	V.RESISTOR 10K	1	
VR0004,05		VRV0062B203	V.RESISTOR 20K	2	
VR0006		VRV0062B103	V.RESISTOR 10K	1	
VR0007,08		VRV0062B203	V.RESISTOR 20K	2	
VR0009		VRV0062B103	V.RESISTOR 10K	1	
VR0010		VRV0062B102	V.RESISTOR 1K	1	
VR0011		VRV0062B203	V.RESISTOR 20K	1	
X0001		VSX0360	CRYSTAL OSCILLATOR	1	
X0002		VSX0333	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	
		VMP2426	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP21097B	P.C.BOARD W/COMPONENT		
			POWER		
	■	VEP21099A	P.C.BOARD W/COMPONENT		
			POWER SUB		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAPACITORS		
C56-58		ECEA1JFE6R8	E.CAPACITOR 6.8U	3	
C59-61		ECEA1JFE180	E.CAPACITOR 18U	3	
C1001		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C1002		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1003		ECA1VFQ151	E.CAPACITOR 35V 150U	1	
C1004		ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C1005		ECEA0JGE331	E.CAPACITOR 6.3V 330U	1	
C1006		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1007		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1008,09		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C1010		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1011,12		ECA1VFQ331	E.CAPACITOR 35V 330U	2	
C1013		ECUM1H152JN	C.CAPACITOR CH 50V 1500P	1	
C1014		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1015		VCEA1AAP221	E.CAPACITOR 10V 220U	1	
C1016		ECA1CFQ331	E.CAPACITOR 16V 330U	1	
C1017		ECST1CX335	T.CAPACITOR 16V 3.3U	1	
C1018		ECST1AX475	T.CAPACITOR 10V 4.7U	1	
C1019		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1020		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C1021		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C1022		ECST1AX475	T.CAPACITOR 10V 4.7U	1	
C1023,24		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1026		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C1028		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C1029,30		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C1031,32		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	2	
C1033		ECA1CFQ331	E.CAPACITOR 16V 330U	1	
C1034		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1035		ECA1AFQ331	E.CAPACITOR 10V 330U	1	
C1036		ECA1VFQ121	E.CAPACITOR 35V 120U	1	
C1037		ECA1EFQ181	E.CAPACITOR 25V 180U	1	
C1038		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1039		ECA1AFQ331	E.CAPACITOR 10V 330U	1	
C1040		ECA1VFQ121	E.CAPACITOR 35V 120U	1	
C1041		ECA1EFQ181	E.CAPACITOR 25V 180U	1	
C1042		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1043,44		ECA1AFQ331	E.CAPACITOR 10V 330U	2	
C1045		ECA1CFQ331	E.CAPACITOR 16V 330U	1	
C1046-48		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C1049		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C1050		ECST1EX155	T.CAPACITOR 25V 1.5U	1	
C1051		ECST1AX475	T.CAPACITOR 10V 4.7U	1	
C1052		ECST1VX105	T.CAPACITOR 35V 1U	1	
C1053		ECST1EX155	T.CAPACITOR 25V 1.5U	1	
C1054,55		ECA1EFQ181	E.CAPACITOR 25V 180U	2	
D23,24		MA157A	DIODE	2	
D1001-03		MA151K	DIODE	3	
D1004		MA701A	DIODE	1	
D1005		EA60QC04F	DIODE	1	
D1007		EA60QC04F	DIODE	1	
D1008		MA151K	DIODE	1	
D1010-13		E10QS06	DIODE	4	
D1014		EA60QC04F	DIODE	1	
D1016,17		MA701A	DIODE	2	
D1018,19		E10QS06	DIODE	2	
D1020,21		E562	DIODE	2	
D1022		MA151K	DIODE	1	
IC1001		RC082BM	IC	1	
IC1002		LM2904M	IC	1	
IC1003		TL1451CNS	IC	1	
IC1004		MC74HC02AF	IC	1	
IC1005		MC14013BF	IC	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L1001,02		VLQ0297	COIL	2	
L1003,04		VLQ0400	COIL	2	
L1005		VLQ0177K271	COIL 270UH	1	
L1006		VLQ0297	COIL	1	
L1007		VLQ0177K271	COIL 270UH	1	
L1008		VLQ0297	COIL	1	
L1009,10		VLQ0177K271	COIL 270UH	2	
L1011		VLQ0297	COIL	1	
L1012		VLQ0177K271	COIL 270UH	1	
P1304		VJP2744B040	CONNECTOR (MALE)	1	
Q19		2SD968	TRANSISTOR	1	(R,S)
Q20,21		2SD814	TRANSISTOR	2	(R)
Q1001		2SD601A	TRANSISTOR CHIP	1	(Q,R)
Q1002		UN2215	TRANSISTOR-RESISTOR	1	
Q1003		2SD601A	TRANSISTOR CHIP	1	(Q,R)
Q1004		2SB709A	TRANSISTOR CHIP	1	(Q,R)
Q1005		2SD601A	TRANSISTOR CHIP	1	(Q,R)
Q1006		2SB709A	TRANSISTOR CHIP	1	(Q,R)
Q1007,08		IRFR9020	TRANSISTOR	2	
Q1009		2SD601	TRANSISTOR CHIP	1	(Q,R)
Q1010		2SB709	TRANSISTOR CHIP	1	(Q,R)
Q1011		2SB956	TRANSISTOR	1	(S)
Q1012,13		2SK1059-Z	TRANSISTOR	2	
Q1014		UN221E	TRANSISTOR	1	
Q1017,18		IRFR9020	TRANSISTOR	2	
			RESISTORS		
R57		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R59		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R60		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R61		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R1001		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R1002		ERW2PKR10	W.RESISTOR 2W 0.1	1	
R1003		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R1004		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1005		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1006		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1007		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1008		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R1009		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1010,11		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	2	
R1012		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1013		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1014		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R1015		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1016,17		VRE0034E153	M.RESISTOR CH 1/10W 15K	2	
R1018,19		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R1020,21		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1022		ERJ6GEYJ3R3	M.RESISTOR CH 1/10W 3.3	1	
R1023		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R1024		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R1025		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1026		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1027		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1028		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1029		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1030		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R1031		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R1034		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R1037		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1038,39		VRE0034E221	M.RESISTOR CH 1/10W 220	2	
R1041		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1042		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1043,44		VRE0034E333	M.RESISTOR CH 1/10W 33K	2	
R1045,46		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R1052		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1053		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1054		VRE0034E270	M.RESISTOR CH 1/10W 75	1	
R1055,56		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1062-65		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	4	
T1001		VLT0629	TRANSFORMER	1	
VR1001		VRV0062B502	V.RESISTOR 5K	1	
			MISCELLANEOUS		
		VJR0423	PIN	1	
		VMP2427	P.C.B. HOLDER ANGLE	1	
		VMX1330	SPACER	2	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+14FZ	SCREW	2	
	■	VEP20354A	P.C.BOARD W/COMPONENT		
			CCD MOUNT		
			CAPACITORS		
C001		ECUM1H682KBN	C.CAPACITOR CH 50V 6800P	1	
C002-05		ECST1CY105	T.CAPACITOR 16V 1U	4	
C006		ECST1VX105	T.CAPACITOR 35V 1U	1	
C007		ECST1CY105	T.CAPACITOR 16V 1U	1	
Q001		2SC3735B35	TRANSISTOR	1	
			RESISTORS		
R001		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R004		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R005		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R006		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R007		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
			MISCELLANEOUS		
		VJP2509	CONNECTOR (MALE)	1	
	■	VEP20306A	P.C.BOARD W/COMPONENT		
			FRONT SW		
			CAPACITORS		
CD051		ECST1CY105	T.CAPACITOR 16V 1U	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C0052		ECST1CY335	T.CAPACITOR 16V 3.3U	1	
C0053		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0054,55		ECA1CKF150	E.CAPACITOR 16V 15U	2	
D0051		MA151K	DIODE	1	
IC0051		MC14013BF	IC	1	
IC0052		NJM2406F	IC	1	
P0103		VJP2739A002	CONNECTOR (MALE)	1	
P0123		VJP2741A014	CONNECTOR (MALE)	1	
Q0052		UN211E	TRANSISTOR	1	
			RESISTORS		
R0051		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0052		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R0053		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
R0054		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0055		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R0056-58		VRE0034E104	M.RESISTOR CH 1/10W 100K	3	
R0059		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
SW0051		VSP0482	SWITCH	1	
VR0051		VRV0129B103	V.RESISTOR 10K	1	
	■	VEP20307A	P.C.BOARD W/COMPONENT		
			RIGHT SIDE SW		
	■	VEP20308A	P.C.BOARD W/COMPONENT		ON VEP20308A
			RIGHT SIDE SW SUB		
			CAPACITORS		
C0001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0002		ECEA1EFE221	E.CAPACITOR 25V 220U	1	
L0001		VLQ0297	COIL	1	
Q0001		UN211E	TRANSISTOR	1	
Q0002		UN221E	TRANSISTOR	1	
			RESISTORS		
R0002		ERX12SJ3R0	M.RESISTOR 1/2W 3.0	1	
R0003		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0004		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0005		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0006		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R0007		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R0008,09		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0010,11		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0012,13		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0014,15		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0016,17		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0018,19		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0020		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0021,22		VRE0034E362	M.RESISTOR CH 1/10W 3.6K	2	
R0023		VRE0034E330	M.RESISTOR CH 1/10W 33	1	
SW0001		VST0120	SWITCH	1	
SW0002,03		VST0121	SWITCH	2	
SW0004		VST0122	SWITCH	1	
SW0005,06		VST0120	SWITCH	2	
SW0007		VST0124	SWITCH	1	
VR0001		VRV0069B103	V.RESISTOR 10K	1	
	■	VEP20309A	P.C.BOARD W/COMPONENT		
			LEFT SIDE SW		
	■	VEP20312A	P.C.BOARD W/COMPONENT		ON VEP20309A
			LEFT SIDE SW SUB		
			CAPACITORS		
C0031		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C0041		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
P0102		VJP2739A010	CONNECTOR (MALE)	1	
			RESISTORS		
R0030		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0031		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0032		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0033		VRE0034E133	M.RESISTOR CH 1/10W 13K	1	
R0034		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0036		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0037		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0038		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0039,40		VRE0034E133	M.RESISTOR CH 1/10W 13K	2	
R0041		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R0042		VRE0034E913	M.RESISTOR CH 1/10W 91K	1	
R0043		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0044		VRE0034E563	M.RESISTOR CH 1/10W 56K	1	
SW0031		VSR0079	SWITCH	1	
SW0032		VSR0070	SWITCH	1	
SW0033		VSP0487	SWITCH	1	
			MISCELLANEOUS		
		VMP2459	P.C.B. HOLDER ANGLE	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20361B	P.C.BOARD W/COMPONENT		
			79P		
D0001		MA151K	DIODE	1	
J0107		VJP1893	CONNECTOR (MALE)	1	
P0109		VJP2739B005	CONNECTOR (MALE)	1	
P0111		VJP2741B014	CONNECTOR (MALE)	1	
P0112		VJP2741B008	CONNECTOR (MALE)	1	
P0120		VJP2741B016	CONNECTOR (MALE)	1	
P0121		VJP2741B022	CONNECTOR (MALE)	1	
			RESISTORS		
R0001		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
			MISCELLANEOUS		
		VJP2757	CONNECTOR (MALE)	79	
	■	VEP24017B	P.C.BOARD W/COMPONENT		
			MIC		
			CAPACITORS		
C1-C3		ECEA1JFE180	E.CAPACITOR 18U	3	
			RESISTORS		
R1		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R2		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R3		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R4		VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R5		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R6,R7		VRE0034E473	M.RESISTOR CH 1/10W 47K	2	
SW61		VSS0157	SWITCH	1	
	■	VEP20340B	P.C.BOARD W/COMPONENT		
			OG ADJ		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R1		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R2		VRE0034E433	M.RESISTOR CH 1/10W 43K	1	
R3		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R4		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
VR1-R3		VRV0113B203	T.RESISTOR 20K	3	
	■	VEP20297A	P.C.BOARD W/COMPONENT		
			BRAKER		
			MISCELLANEOUS		
		VMP2428	P.C.B. HOLDER ANGLE	1	
		VSQ0814	BRAKER	1	

Disassembly Procedures

The following procedures describe the order of steps for removing the casing parts and P.C.Board. To reassemble the unit, follow the steps in reverse order.

1. Top Panel Removal

1. Unscrew the 3 screws (A) so that the ring can be removed from the main unit.

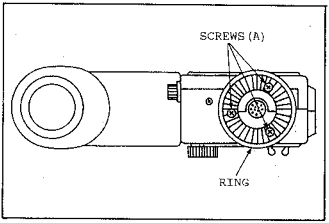


Fig. D-1-1 Top Case Removal (1)

2. Unscrew the 4 screws (B) so that the VF fixing plate can be removed.

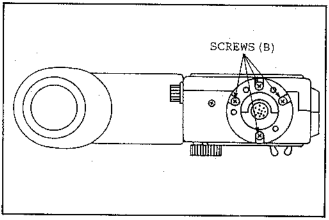


Fig. D-1-2 Top Case Removal (2)

3. Unscrew the 3 screws (C) on the bottom case so that the top case can be removed.

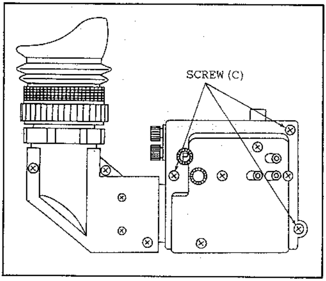


Fig. D-1-3 Top Case Removal (3)

2. CRT Case Removal

1. Remove the hand knob as shown Figure D-2-1.
2. Unscrew the screw (D) so that the CRT case can be removed from the bottom case.

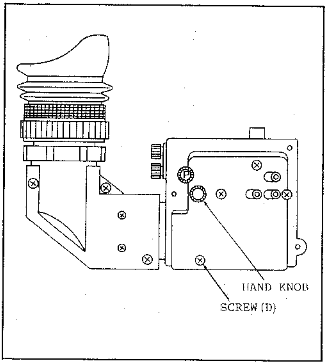


Fig. D-2-1 CRT Case Removal (1)

3. Turn the lens holder ring in CCW direction.
4. Pull the eye cap so that the eye cap/lens portion can be removed from the CRT case.

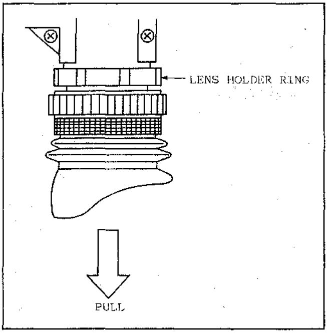

LENS HOLDER RING
PULL

Fig. D-2-2 CRT Case Removal (2)

5. Unscrew the 3 screws (E).
6. Unscrew the 2 screws (F). (The screws (F) have been tighten with the hexagon nut).

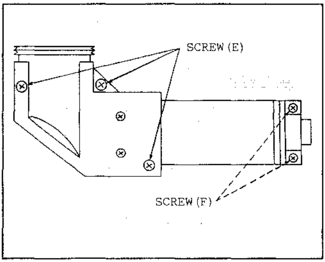

SCREW (E)
SCREW (F)

Fig. D-2-3 CRT Case Removal (3)

7. Unscrew the 2 screws (G) so that the bottom CRT case can be removed from the CRT unit.

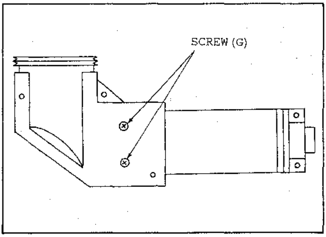


Fig. D-2-4

3. P.C.Board Maintenance

1. Unscrew the screw (H).
2. Unscrew the screw (I). (The screw has been tighten with hexagon nut)

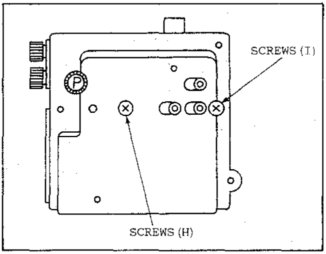

SCREWS (I)
SCREWS (H)

Fig. D-3-1 P.C.Board Removal (1)

3. Unscrew the screw (J).

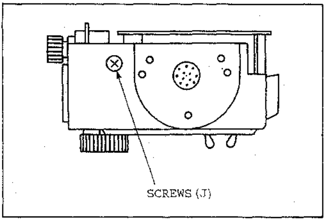


Fig. D-3-2 P.C.Board Removal (2)

4. Unscrew the 2 screws (K) so that the P.C.Board can be removed.

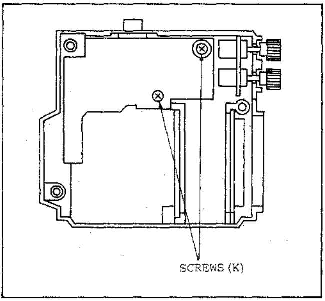


Fig. D-3-3 P.C.Board Removal (3)

5. Connect the extender cable (Part No. VFK0665) as shown in Figure D-3-4.

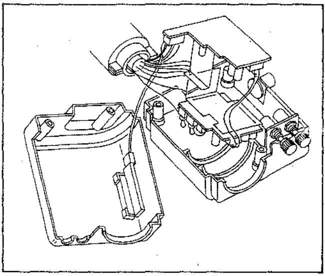


Fig. D-3-4 Usage of Extender Cable

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC2		HA11423MP	IC	1	
P1		VJP3020	CONNECTOR (MALE)	1	
P2		VJP3018A002	CONNECTOR (MALE)	1	
P3		VJP3018A004	CONNECTOR (MALE)	1	
P4		VJP3018A002	CONNECTOR (MALE)	1	
Q9-12		2SC1623L7	TRANSISTOR	4	
Q19		2SC1622AD16	TRANSISTOR	1	
			RESISTORS		
R24		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R25		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R26		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R38		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R39		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R40		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R41		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R42		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R43		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R44		VRE0034E121	M.RESISTOR CH 1/10W 120	1	
R45		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R46		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R47		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R48		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R49		VRE0034E222	M.RESISTOR CH 1/10W 22K	1	
R50		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R51		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R52		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R53		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R54		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R55		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R56		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R57		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R58		ERJ6GEYK4R7	M.RESISTOR CH 1/10W 4.7	1	
R59		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R60		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R61		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R63		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R64		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R77		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
SW1-W3		VST0113	SWITCH	3	
VR6		VRV0062B502	V.RESISTOR 5K	1	
	■	VEP20328A	P.C.BOARD W/COMPONENT		
			VIDEO		
			CAPACITORS		
C4		ECEA1CKG470	E.CAPACITOR 16V 47U	1	
C5		ECEA1EKG330	E.CAPACITOR 25V 33U	1	
C6		VCK0101J222	C.CAPACITOR 50V 2200P	1	
C7,C8		ECEA1CKG100	E.CAPACITOR 16V 10U	2	
C9		VCK0101J470	C.CAPACITOR 50V 47U	1	
C10		VCF1HBA103	P.CAPACITOR 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C12		VCK0101J472	C.CAPACITOR 50V 4700P	1	
DL1		VLD0218	DELAY	1	
L1		ELE-H270JA	COIL 27UH	1	
P11		VJP3018A005	CONNECTOR (MALE)	1	
P16		VJP3018A003	CONNECTOR (MALE)	1	
Q1,Q2		2SD814	TRANSISTOR	2	
Q3		2SK330-GR	TRANSISTOR	1	
Q4		2SD814	TRANSISTOR	1	
Q5		2SC3245	TRANSISTOR	1	
Q6		2SC1622AD16	TRANSISTOR	1	
			RESISTORS		
R1		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0.00	1	
R2		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R3		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R4		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R5		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R6		VRE0034E680	M.RESISTOR CH 1/10W 68	1	
R7		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R8		VRE0034E511	M.RESISTOR CH 1/10W 510	1	
R9		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R10		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R11		VRE0034E823	M.RESISTOR CH 1/10W 82K	1	
R12		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R13		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R14		VRE0034E511	M.RESISTOR CH 1/10W 510	1	
R15		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R16		VRE0034E151	M.RESISTOR CH 1/10W 150	1	
R17		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R18		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R19		VRE0061F182	M.RESISTOR CH 1/2W 1.8K	1	
R20		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R21		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R22		VRE0061F152	M.RESISTOR CH 1/2W 1.5K	1	
R23		ERJ6GEYK475	M.RESISTOR CH 1/10W 4.7M	1	
R79		ERDS2TJ124	C.RESISTOR 1/4W 120K	1	
VR2		VRV0137	V.RESISTOR 2K	1	
VR3		VRV0118B102	V.RESISTOR 1K	1	
VR11		VRV0118B504	V.RESISTOR 500K	1	
	■	VEP20329A	P.C.BOARD W/COMPONENT		FOR AQ-VF1-P
			VR		
	■	VEP20329B	P.C.BOARD W/COMPONENT		FOR AQ-VF1-E
			VR		
L2		ELE-H101JA	COIL 100UH	1	
			RESISTORS		
R27		VRE0034E680	M.RESISTOR CH 1/10W 68	1	
R62		VRE0034E221	M.RESISTOR CH 1/10W 220	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR1		VRV0062B102	V.RESISTOR 1K	1	
VR4		VRV0069B500	V.RESISTOR 50	1	
VR7		VRV0062B502	V.RESISTOR 5K	1	
VR8		VRV0062B504	V.RESISTOR 500K	1	
VR9		VRV0062B201	V.RESISTOR 200	1	
VR10		VRV0062B501	V.RESISTOR 500	1	
P15		VJS3124	CONNECTOR (FEMALE)	1	
	■	VEP20331A	P.C.BOARD W/COMPONENT		
			REG IC		
IC1		SI3090C	IC	1	
	■	VEP20330A	P.C.BOARD W/COMPONENT		
			TALLY		
D15-18		EBR5638S	DIODE	4	
	■	VEK5209	CRT MASK U		
D9		BG2232S	DIODE	1	
D14		PR2232S	DIODE	1	
D10-13		AY2232S	DIODE	4	
Q13-16		UN5214	TRANSISTOR	4	
			RESISTORS		
R68		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R69-73		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	5	

CONTENTS

ELECTRICAL ADJUSTMENT PROCEDURE

1. REG C/F SECTION 1-1
   - 1-1. +5V ADJUSTMENT. 1-1
2. VIDEO C/F SECTION 1-1
   - 2-1. COMPONENT OUT LEVEL ADJUSTMENT 1-1
   - 2-2. RET/QTV OUTPUT LEVEL ADJUSTMENT 1-2
3. AUDIO SECTION(79P P.C.BOARD) 1-3
   - 3-1. MIC 1/2 GAIN ADJUSTMENT 1-3
   - 3-2. INTER COM. GAIN ADJUSTMENT. 1-4
   - 3-3. SIDE TONE ADJUSTMENT. 1-4

Electrical Adjustment Procedure

1. REG C/F Section

1-1. +5V Adjustment

Board	REG C/F
T.P.	EXTP5
Adj.	VR1 [V Adj] (D-4)
Sig.	------
M.EQ	D.V.M.
Spec.	+5VDC ±0.1V

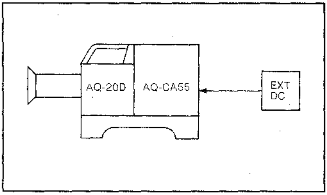
2. Video C/F Section

2-1. Component Out Level Adjustment

Board	Video C/F
T.P.	TP1 [Y] (I-3), TP2 [R-Y] (I-3), TP3 [B-Y] (H-3)
Adj.	VR1 [Y GAIN] (I-3), VR2 [R-Y GAIN] (I-3), VR3 [B-Y GAIN] (H-3)
Sig.	Camera Colour Bar
M.EQ	Oscilloscope
Spec.	A=1.4Vp-p, B=1.05Vp-p, C=1.05Vp-p

Step 1

Set up the following system.



Step 2

Scope CH1 : TP1 200mV/D, 10us/D

Adjust VR1 [Y GAIN] so that the portion (A) is 1.4Vp-p.

Step 3

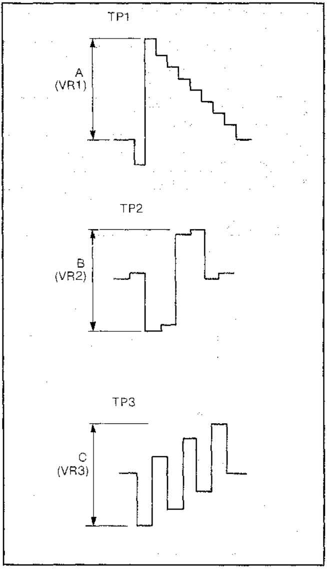
Scope CH1 : TP2 200mV/D, 10us/D

Adjust VR2 [R-Y GAIN] so that the portion (B) is 1.05Vp-p.

Step 4

Scope CH1 : TP3 200mV/D, 10us/D

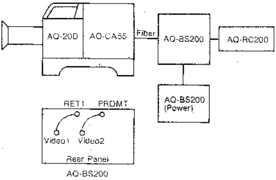
Adjust VR3 [B-Y GAIN] so that the portion (C) is 1.05Vp-p.



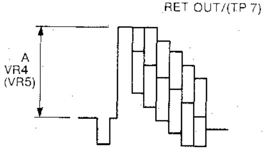
2-2. RET/QTV Output Level Adjustment

Board	Video C/F
T.P.	RET OUT (Left side), TP7 [QTV] (D-5) VR4 [RET GAIN] (B-5) VR5 [QTV GAIN] (D-5)
Adj.	VR4 [RET GAIN] (B-5) VR5 [QTV GAIN] (D-5)
Sig.	S colour Bar
M.EQ	Oscilloscope
Spec.	A=0.7Vp-p, B=1.4Vp-p

Step 1
Set up the following system.



AQ-20D
AQ-CA55
Fiber
AQ-BS200
AQ-RC200
AQ-BS200 (Power)
RET1
PROMT
Video1
Video2
Rear Panel
AQ-BS200



RET OUT/(TP 7)
A
VR4
(VR5)

Step 2
Scope CH1 : RET OUT (on the left side) with 75Ω termination
200mV/D, 10us/D

Step 3
Adjust VR4 [RET GAIN] so that the level of RET signal (A) is 0.7Vp-p.

Step 4
Scope CH1 : TP7 (QTV) 500mV/D, 10us/D

Step 5
Adjust VR5 [QTV GAIN] so that the level of QTV signal (A) is 1.4Vp-p.

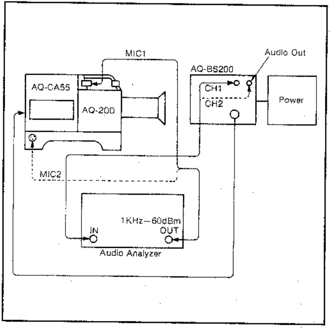
3. AUDIO SECTION (79P P.C.Board)

3-1. MIC 1/2 Gain Adjustment

Board	79P
T.P.	As shown figure
Adj.	VR4 [MIC-1 GAIN], VR2 [MIC-2 GAIN], VR1 [MIC-1 BIAS-H], VR3 [MIC-2 BIAS-H]
Sig.	1kHz -60dBm
M.EQ	Audio Analyzer
Spec.	Output Gain=0dBm, Distortion=Minimum

Step 1

Set up the system as follows.


MIC1
Audio Out
AQ-BS200
AQ-CA55
CH1
CH2
Power
AQ-200
MIC2
1KHz—60dBm
IN
OUT
Audio Analyzer

Step 2

Place the Audio Analyzer in the level mode, and set the output signal to 1kHz -60dBm.

Step 3

Connect the Audio analyzer to MIC 1 and Audio CH1 as shown in figure.

Step 4

Adjust VR4 [MIC-1 GAIN] so that the output level is 0dBm.

Step 5

place the Audio Analyzer in the distortion mode.

Step 6

Adjust VR1 [MIC-1 BIAS-H] so that the distortion level is minimized.

Step 7

Connect the Audio Analyzer to MIC 2 and Audio 2 (out) as shown in figure.

Step 8

Place the Audio Analyzer in the level mode.

Step 9

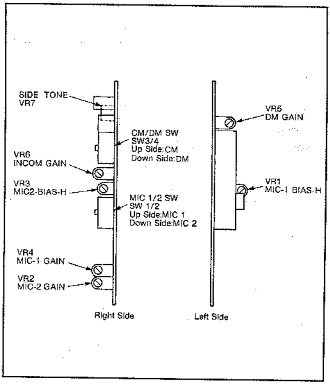
Adjust VR2 [MIC-2 GAIN] so that the output level is 0dBm.

Step 10

Place the Audio Analyzer in the distortion mode.

Step 11

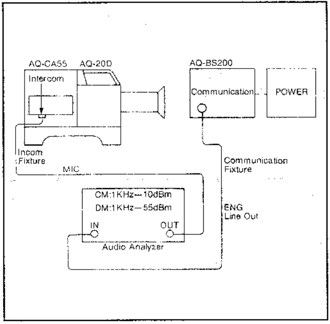
Adjust VR3 [MIC-2 BIAS-H] so that the distortion level is minimized.


SIDE TONE
VR7
VR5
DM GAIN
CM/DM SW
SW3/4
Up Side:CM
Down Side:DM
VR6
INCOM GAIN
VR3
MIC2-BIAS-H
VR1
MIC-1 BIAS-H
MIC 1/2 SW
SW 1/2
Up Side:MIC 1
Down Side:MIC 2
VR4
MIC-1 GAIN
VR2
MIC-2 GAIN
Right Side
Left Side

3-2. Inter com. Gain Adjustment

Board	79P
T.P.	As shown figure
Adj.	VR6 [INCOM GAIN], VR5 [DM GAIN]
Sig.	CM : 1kHz -10dBm/DM : 1kHz -55dBm
M.EQ	Audio Analyzer
Spec.	Output Gain=0dBm

Step 1
Set up the system as follows.


AQ-CA55
AQ-20D
AQ-BS200
Intercom
Communication
POWER
Incom Fixture
MIC
Communication Fixture
CM:1KHz—10dBm
DM:1KHz—55dBm
IN
OUT
Audio Analyzer
ENG Line Out

Step 2
CM/DM SW (SW3, 4) : CM on the 79P Board
Output of Audio Analyzer : 1kHz -10dBm
MIC ON/OFF : ON

Step 3
Adjust VR6 [INCOM GAIN] so that the Incom Gain is 0dBm.

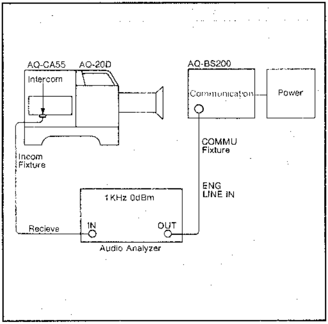
Step 4
CM/DM SW (SW3, 4) : DM (Dynamic MIC) on the 79P P.C.Board
Output of Audio Analyzer : 1kHz -55dBm

Step 5
Adjust VR5 [DM GAIN] so that the DM Gain is 0dBm.

3-3. Side Tone Adjustment

Board	79P
T.P.	As shown figure
Adj.	VR7 [SIDE TONE] Level and PGM VR
Sig.	1kHz -10dBm
M.EQ	Audio Analyzer
Spec.	-6dBm

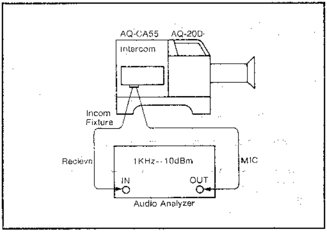
Step 1
Set up the system as follows.


AQ-CA55
AQ-20D
AQ-BS200
Intercom
Communication
Power
COMMU Fixture
Incom Fixture
ENG LINE IN
1KHz 0dBm
Recieve
IN
OUT
Audio Analyzer

Step 2
CM/DM SW : CM on the 79P Board
Output of Audio Analyzer : 1Khz 0dBm

Step 3
Adjust Level VR and PGM VR on the left side panel so that the output level of Receive is 0dBm and then keep this condition.

Step 4
Set up the system as follows.


AQ-CA55
AQ-20D
Intercom
Incom Fixture
Recieve
1KHz—10dBm
MIC
IN
OUT
Audio Analyzer

Step 5
Adjust VR7 [SIDE TONE] so that the side tone level is -6dBm.

CONTENTS

IC INFORMATION .... 1~4

BLOCK DIAGRAM

HEAD AUDIO(C/F) BLOCK DIAGRAM BLK-1
HEAD VIDEO BLOCK DIAGRAM BLK-1
HEAD DIGITAL BLOCK DIAGRAM BLK-2

SCHEMATIC DIAGRAM

INTERCONNECTION SCM-1
HEAD DIGITAL(C/F) SCHEMATIC DIAGRAM 1/2 .... SCM-2
HEAD DIGITAL(C/F) SCHEMATIC DIAGRAM 2/2 .... SCM-3
HEAD VIDEO(C/F) SCHEMATIC DIAGRAM SCM-4
HEAD AUDIO(C/F) SCHEMATIC DIAGRAM SCM-5
OPT LINC SCHEMATIC DIAGRAM SCM-6
REG(C/F) SCHEMATIC DIAGRAM SCM-7
POWER SCHEMATIC DIAGRAM SCM-8
79P BOARD SCHEMATIC DIAGRAM SCM-9

P.C.BOARD

MOTHER P.C.BOARD SCM-10
HEAD AUDIO(C/F) P.C.BOARD SCM-10
HEAD VIDEO(C/F) P.C.BOARD SCM-11
HEAD DIGITAL(C/F) P.C.BOARD (FOR NTSC MODEL) (FOR PAL MODEL) SCM-12
OPT LINK P.C.BOARD SCM-13
REG(C/F) P.C.BOARD SCM-13
POWER P.C.BOARD SCM-14
79P BOARD P.C.BOARD SCM-15
BRAKER P.C.BOARD SCM-15
CALL P.C.BOARD SCM-15

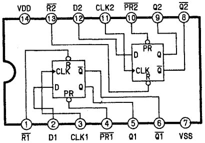
IC INFORMATION
CONTENTS

PART NO.	PAGE	PART NO.	PAGE
74AC74SJ	1		
AD847JR	1		
MC14053BF	1		
MC4044M	1		
MC74HC161F	2		
MN1280P	2		
NJM2904M	2		
PC113A	2		
TL061CPS	3		
TL062CPS	3		
TL082CPS	3		
TL1451CNS	3		
μPC271G	3		
μPC4557C	3		
μPC4570G	3		
VSC3KI-122A	4		

74AC74SJ

(DUAL D-TYPE FLIP-FLOP)

(TOP VIEW)


VDD
$\overline{R2}$
D2
CLK2
$\overline{PR2}$
Q2
$\overline{Q2}$
14
13
12
11
10
9
8
PR
D
Q
CLK
$\overline{Q}$
R
R
CLK
$\overline{Q}$
D
Q
PR
1
2
3
4
5
6
7
$\overline{R1}$
D1
CLK1
$\overline{PR1}$
Q1
$\overline{Q1}$
VSS

CLK:CLOCK

$\overline{PR}$:$\overline{PRESET}$

$\overline{R}$:$\overline{RESET}$

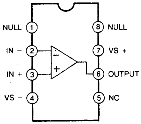
D:DATA

TRUTH TABLE (74HC74)

INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	$\overline{Q}$
L	H	×	×	H	L
H	L	×	×	L	H
L	L	×	×	H*	H*
H	H	↑	H	H	L
H	H	↑	L	L	H
H	H	L	×	Q0	$\overline{Q0}$

*:UNSTABLE

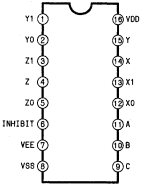
AD847JR


NULL
1
IN –
2
IN +
3
VS –
4
–
+
8
NULL
7
VS +
6
OUTPUT
5
NC

MC74HC4053F

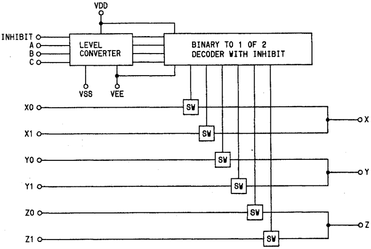
(TRIPLE 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER)

(TOP VIEW)


Y1
1
Y0
2
Z1
3
Z
4
Z0
5
INHIBIT
6
VEE
7
VSS
8
16
VDD
15
Y
14
X
13
X1
12
X0
11
A
10
B
9
C

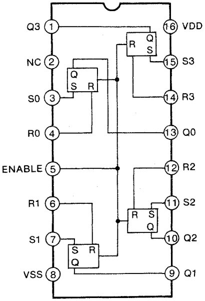
TRUTH TABLE

INPUT STATES				"ON" CHANNEL(S)
INHIBIT	C	B	A	
0	0	0	0	X0,Y0,Z0
0	0	0	1	X1,Y1,Z1
1	×	×	×	NONE


VDD
INHIBIT
A
B
C
LEVEL CONVERTER
BINARY TO 1 OF 2 DECODER WITH INHIBIT
VSS
VEE
X0
X1
Y0
Y1
Z0
Z1
SW
SW
SW
SW
SW
SW
X
Y
Z

MC4044M

(QUAD NAND RS LATCH)


Q3
1
NC
2
S0
3
R0
4
ENABLE
5
R1
6
S1
7
VSS
8
16
VDD
15
S3
14
R3
13
Q0
12
R2
11
S2
10
Q2
9
Q1
R
Q
S
Q
S
R
R
S
Q
S
R
Q

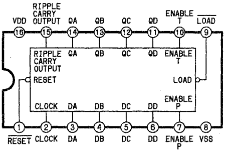
S	R	E	Q
×	×	0	HIGH IMPECLANCE
0	0	1	0
0	1	1	1
1	0	1	0
1	1	1	NO CHANGE

× = DON'T CARE

MC74HC161F

(4-BIT SYNCHRONOUS BINARY COUNTER)

(TOP VIEW)


VDD
RIPPLE CARRY OUTPUT
QA
QB
QC
QD
ENABLE T
LOAD
16
15
14
13
12
11
10
9
RIPPLE CARRY OUTPUT
QA
QB
QC
QD
ENABLE T
RESET
LOAD
ENABLE P
CLOCK
DA
DB
DC
DD
1
2
3
4
5
6
7
8
RESET
CLOCK
DA
DB
DC
DD
ENABLE P
VSS

TRUTH TABLE (74HC160/74HC161)

INPUT					OUTPUT
CLOCK	$\overline{\text{RESET}}$	$\overline{\text{LOAD}}$	ENABLE P	ENABLE T	Qn
×	L	×	×	×	L
↑	H	L	×	×	LOAD
↑	H	H	H	H	COUNT
×	H	H	L	×	NO COUNT
×	H	H	×	L	NO COUNT

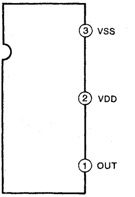
H:HIGH L:LOW X:H or L
n:A～D

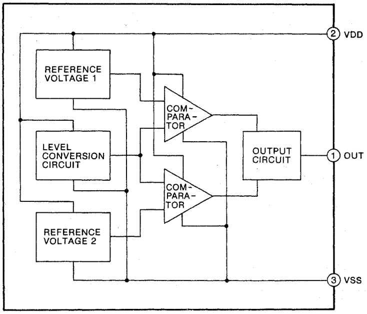
FUNCTION TABLE (74161)

INPUT					OUTPUT		FUNCTION
CLEAR	LOAD	CK	ENABLE P	ENABLE T	QA QB QC QD	RIPPLE CARRY	
H	H	↑	H	H		—	COUNT
H	L		X	X	DA DB DC DD	—	DATA SET
L	X	X	X	X	L L L L	—	CLEAR
H	X	X	X	H	H H H H	H	—

MN1280P

(RESET SIGNAL GENERATOR)

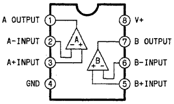

3 VSS
2 VDD
1 OUT

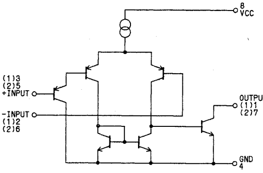

2 VDD
REFERENCE VOLTAGE 1
COM-PARA-TOR
LEVEL CONVERSION CIRCUIT
OUTPUT CIRCUIT
1 OUT
COM-PARA-TOR
REFERENCE VOLTAGE 2
3 VSS

NJM2904M

(DUAL SIGNAL SUPPLY OPERATIONAL AMPLIFIER)

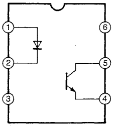
(TOP VIEW)


A OUTPUT 1
A-INPUT 2
A+INPUT 3
GND 4
8 V+
7 B OUTPUT
6 B-INPUT
5 B+INPUT
A
B


8 VCC
(1)3
(2)5
+INPUT
-INPUT
(1)2
(2)6
OUTPUT
(1)1
(2)7
GND
4

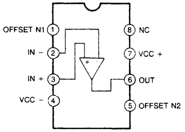
PC113A

(PHOTO COUPLER)



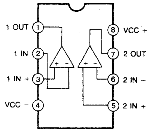
TL061CPS

(OP AMP)


OFFSET N1 1
IN − 2
IN + 3
VCC − 4
8 NC
7 VCC +
6 OUT
5 OFFSET N2
+
−

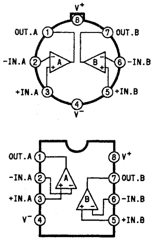
TL062CPS

(OP AMP)


1 OUT 1
1 IN 2
1 IN + 3
VCC − 4
8 VCC +
7 2 OUT
6 2 IN −
5 2 IN +
+ −
+ −

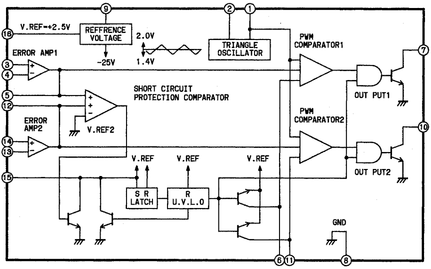
TL082CPS

(OPERATIONAL AMPLIFIER)
(TOP VIEW)

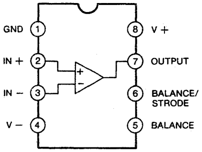

V+
8
OUT.A 1
−IN.A 2
+IN.A 3
4
V−
7 OUT.B
6 −IN.B
5 +IN.B
A
B
OUT.A 1
−IN.A 2
+IN.A 3
V− 4
8 V+
7 OUT.B
6 −IN.B
5 +IN.B
A
B
+ −
+ −

TL1451CNS

(DUAL SWITCHING REGULATOR CONTROLLER)

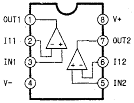

9
2
1
16
V.REF=+2.5V
REFFRENCE VOLTAGE
−25V
2.0V
1.4V
TRIANGLE OSCILLATOR
PWM COMPARATOR1
7
ERROR AMP1
3
4
5
12
SHORT CIRCUIT PROTECTION COMPARATOR
V.REF2
OUT PUT1
PWM COMPARATOR2
10
ERROR AMP2
14
13
OUT PUT2
V.REF
V.REF
V.REF
15
S R LATCH
R U.V.L.O
GND
6
11
8

µPC271G

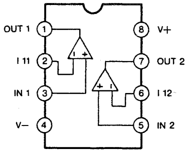

GND 1
IN + 2
IN − 3
V − 4
8 V +
7 OUTPUT
6 BALANCE/ STRODE
5 BALANCE
+
−

µPC4557C

(OPERATIONAL AMPLIFIER)
(TOP VIEW)

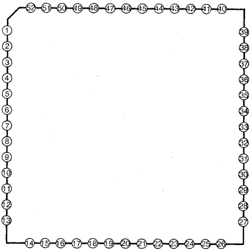

OUT1 1
I11 2
IN1 3
V− 4
8 V+
7 OUT2
6 I12
5 IN2
− +
+ −

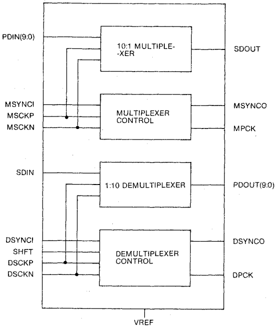
µPC4570G


OUT 1 1
I 11 2
IN 1 3
V− 4
8 V+
7 OUT 2
6 I 12
5 IN 2
I +
+ I

VSC3KI-122A

(400MHz 10BIT·PARALLEL
SERIAL/SERIAL·PARALLEL.(CONVERTER)

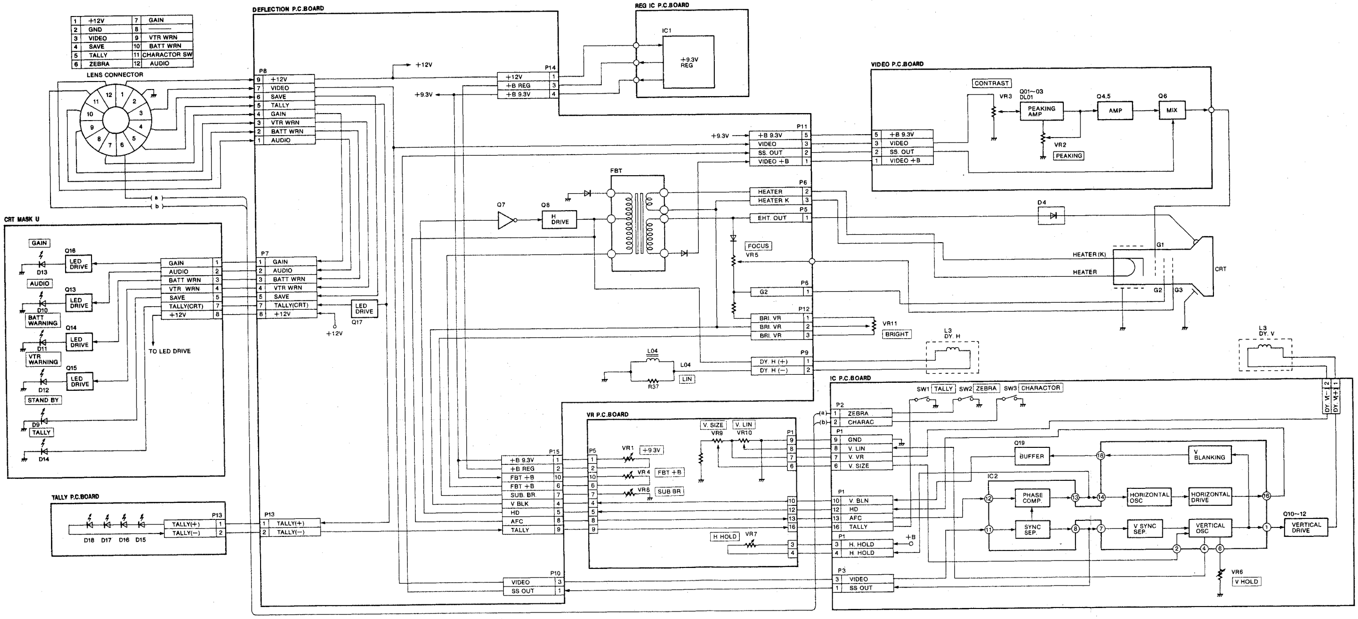

52 51 50 49 48 47 46 45 44 43 42 41 40
1 2 3 4 5 6 7 8 9 10 11 12 13
39 38 37 36 35 34 33 32 31 30 29 28 27
14 15 16 17 18 19 20 21 22 23 24 25 26


PDIN(9:0)
10:1 MULTIPLE- -XER
SDOUT
MSYNCI
MSCKP
MSCKN
MULTIPLEXER CONTROL
MSYNCO
MPCK
SDIN
1:10 DEMULTIPLEXER
PDOUT(9:0)
DSYNCI
SHFT
DSCKP
DSCKN
DEMULTIPLEXER CONTROL
DSYNCO
DPCK
VREF

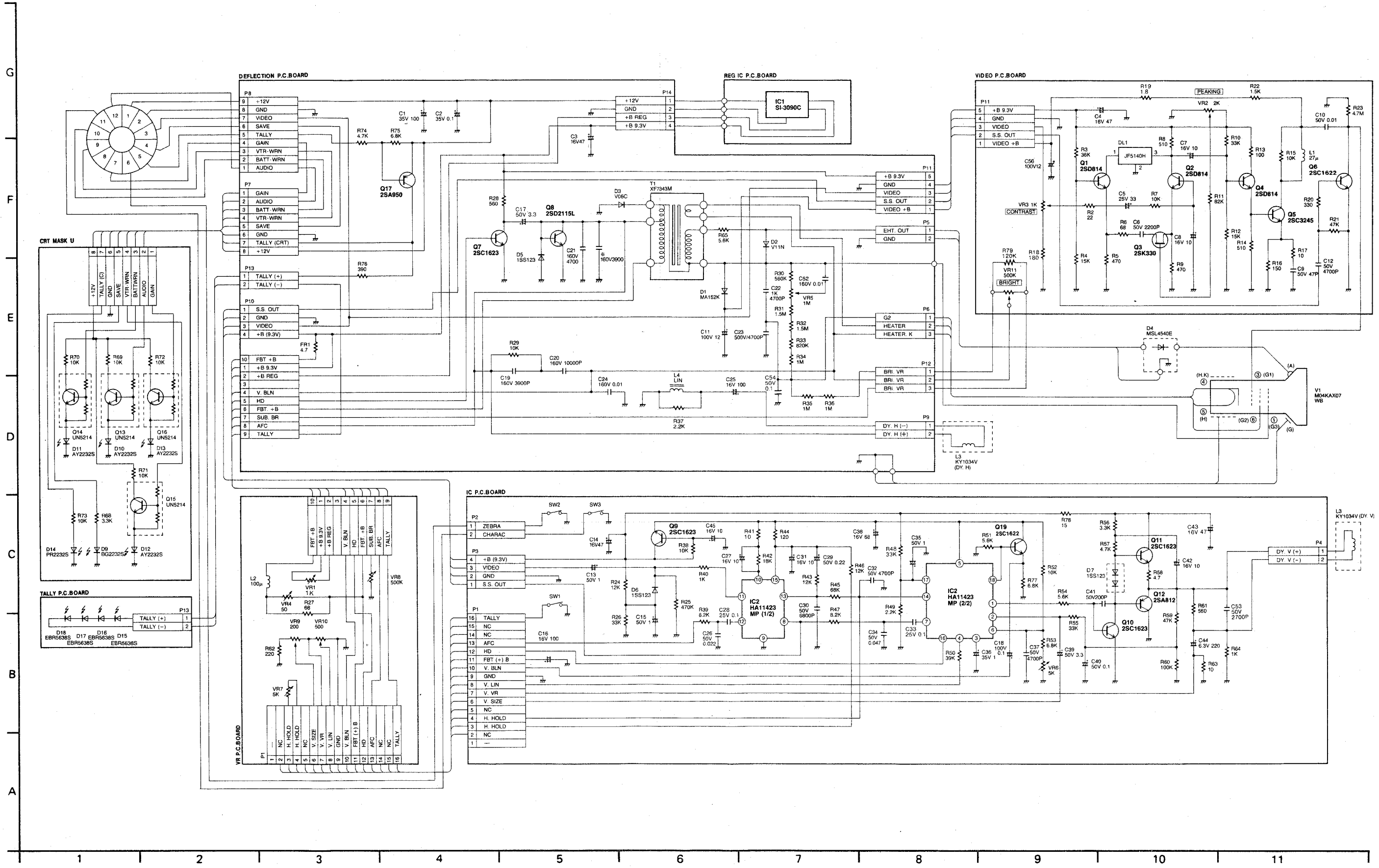
PIN NAME	PIN NO.	I/O
PDIN0	17	I
PDIN1	15	I
PDIN2	14	I
PDIN3	12	I
PDIN4	10	I
PDIN5	9	I
PDIN6	8	I
PDIN7	6	I
PDIN8	5	I
PDIN9	4	I
MSCKP	30	I
MSCKN	31	I
MSYNCI	32	I
SDOUT	25	O
MPCK	2	O
MSYNCO	22	O
SDIN	36	I
DSCKP	33	I
DSCKN	34	I
SHFT	18	I
DSYNCI	35	I
PDOUT0	38	O
PDOUT1	40	O
PDOUT2	41	O
PDOUT3	43	O
PDOUT4	44	O
PDOUT5	45	O
PDOUT6	47	O
PDOUT7	48	O
PDOUT8	49	O
PDOUT9	51	O
DPCK	52	O
DSYNCO	28	O

POWER PIN	PIN NO.
V_{TT}	3, 11, 29, 37
V_{CC}	20, 46
V_{CCA}	16, 24, 27, 42, 50
V_{TTL}	1, 13, 39
Vref	7
∗NC	19, 21, 23, 26

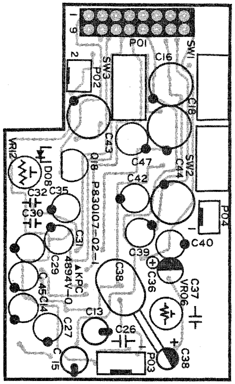
MAIN BLOCK DIAGRAM (AQ-VF1)


1 +12V
2 GND
3 VIDEO
4 SAVE
5 TALLY
6 ZEBRA
7 GAIN
8 ———
9 VTR WRN
10 BATT WRN
11 CHARACTOR SW
12 AUDIO
LENS CONNECTOR
DEFLECTION P.C.BOARD
REG IC P.C.BOARD
IC1
+9.3V REG
VIDEO P.C.BOARD
CONTRAST
VR3
Q01~03 DL01
PEAKING AMP
Q4,5
AMP
Q6
MIX
VR2
PEAKING
P8
+12V
VIDEO
SAVE
TALLY
GAIN
VTR WRN
BATT WRN
AUDIO
P14
+B REG
+B 9.3V
+9.3V
P11
SS. OUT
VIDEO +B
FBT
P6
HEATER
HEATER K
P5
EHT. OUT
Q7
Q8
H DRIVE
D4
FOCUS
VR5
G2
P12
BRI. VR
VR11
BRIGHT
P9
DY. H (+)
DY. H (−)
L3
DY. H
L04
LIN
R37
HEATER (K)
HEATER
G1
G2
G3
CRT
CRT MASK U
Q16
LED DRIVE
D13
Q13
D10
BATT WARNING
Q14
D11
VTR WARNING
Q15
D12
STAND BY
D9
TALLY
D14
TO LED DRIVE
TALLY(CRT)
P7
Q17
TALLY P.C.BOARD
D18
D17
D16
D15
TALLY(+)
TALLY(−)
P13
VR P.C.BOARD
V. SIZE
V. LIN
VR9
VR10
VR1
+9.3V
VR4
FBT +B
VR8
SUB BR
H HOLD
VR7
P15
FBT +B
SUB. BR
V BLK
HD
AFC
P10
IC P.C.BOARD
SW1 TALLY
SW2 ZEBRA
SW3 CHARACTOR
P2
ZEBRA
CHARAC
P1
V. LIN
V. VR
V. SIZE
V. BLN
H. HOLD
+B
P3
Q19
BUFFER
V BLANKING
IC2
PHASE COMP.
HORIZONTAL OSC
HORIZONTAL DRIVE
SYNC SEP.
V SYNC SEP.
VERTICAL OSC
Q10~12
VERTICAL DRIVE
VR6
V HOLD
DY. V+
DY. V−
L3
DY. V

MAIN SCHEMATIC DIAGRAM (AQ-VF1)

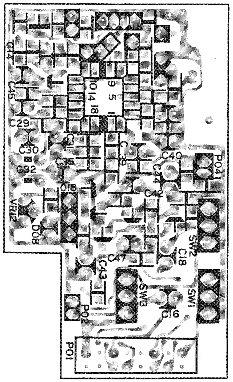

DEFLECTION P.C.BOARD
REG IC P.C.BOARD
VIDEO P.C.BOARD
CRT MASK U
TALLY P.C.BOARD
VR P.C.BOARD
IC P.C.BOARD
P8
+12V
GND
VIDEO
SAVE
TALLY
GAIN
VTR-WRN
BATT-WRN
AUDIO
P7
TALLY (CRT)
P13
TALLY (+)
TALLY (−)
P10
S.S. OUT
+B (9.3V)
FBT +B
+B 9.3V
+B REG
V. BLN
HD
SUB. BR
AFC
P14
P11
P5
EHT. OUT
VIDEO +B
P6
G2
HEATER
HEATER. K
P12
BRI. VR
P9
DY. H (−)
DY. H (+)
IC1
SI-3090C
Q17
2SA950
Q7
2SC1623
Q8
2SD2115L
T1
XF7343M
D1
MA152K
D2
V11N
D3
V06C
D5
1SS123
FR1
4.7
L4
LIN
L3
KY1034V
(DY. H)
V1
M04KAX07
WB
D4
MSL4540E
(A)
(H.K)
④
③ (G1)
⑤
(H)
(G2) ⑥
①
(G3)
(G)
Q1
2SD814
Q2
2SD814
Q3
2SK330
Q4
2SD814
Q5
2SC3245
Q6
2SC1622
DL1
JF5140H
PEAKING
VR2 2K
VR3 1K
CONTRAST
VR11
500K
BRIGHT
L1
27μ
Q14
UN5214
Q13
UN5214
Q16
UN5214
Q15
UN5214
D11
AY2232S
D10
AY2232S
D13
AY2232S
D14
PR2232S
D9
BG2232S
D12
AY2232S
D18
EBR5638S
D17
EBR5638S
D16
EBR5638S
D15
EBR5638S
SW1
SW2
SW3
P2
ZEBRA
CHARAC
P3
P1
TALLY
NC
V. LIN
V. VR
V. SIZE
H. HOLD
Q9
2SC1623
Q19
2SC1622
Q11
2SC1623
Q12
2SA812
Q10
2SC1623
IC2
HA11423
MP (1/2)
IC2
HA11423
MP (2/2)
D6
1SS123
D7
1SS123
L2
100μ
VR1
1K
VR4
50
VR9
200
VR10
500
VR7
5K
VR8
500K
VR5
1M
VR6
5K
L3
KY1034V (DY. V)
P4
DY. V (+)
DY. V (−)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

IC P.C.BOARD (VEP20327A)


P01
SW1
SW3
P02
C16
C18
C43
C47
SW2
C44
Q18
VR12
D08
C32
C35
C30
C42
C31
P830107-02-1
▲KPC 4894V-0
C29
C39
C40
P04
C38
C36
VR06
C37
C45
C14
C27
C13
C26
C15
P03
C38

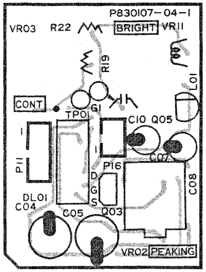
(COMPONENT SIDE)

IC P.C.BOARD (VEP20327A)


C14
C45
IC14
C29
C30
C32
C35
C40
C42
Q18
VR12
D08
C47
C43
SW2
C18
P04
SW3
SW1
C16
P02
P01

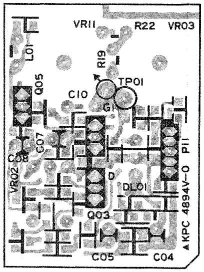
(FOIL SIDE)

VIDEO P.C.BOARD (VEP20328A)


P830107-04-1
VR03
R22
BRIGHT
VR11
R19
L01
CONT
TP01
G1
C10
Q05
P11
P16
D
G
S
C07
C08
DL01
C04
C05
Q03
VR02
PEAKING

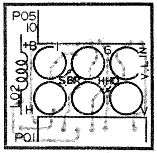
(COMPONENT SIDE)

VIDEO P.C.BOARD (VEP20328A)


VR11
R22
VR03
L01
R19
TP01
Q05
C10
G1
C07
C08
VR02
P11
DL01
Q03
▲KPC 4894V-0
C05
C04

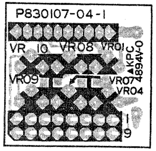
(FOIL SIDE)

VR P.C.BOARD (VEP20329A)


P05
10
+B
L02
SBR
HHD
P01

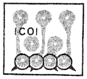
(COMPONENT SIDE)

VR P.C.BOARD (VEP20329A)


P830107-04-1
VR10
VR08
VR01
▲KPC 4894V-0
VR09
VR07
VR04
9

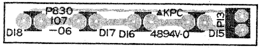
(FOIL SIDE)

REG IC P.C.BOARD (VEP20331A)



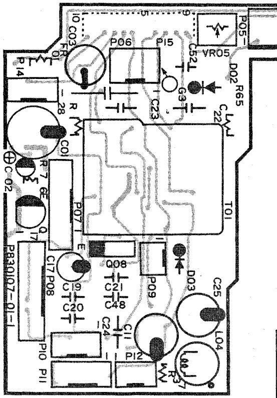
(FOIL SIDE)

TALLY P.C.BOARD (VEP20330A)


P830107-06
▲KPC 4894V-0
D18
D17
D16
D15
P13

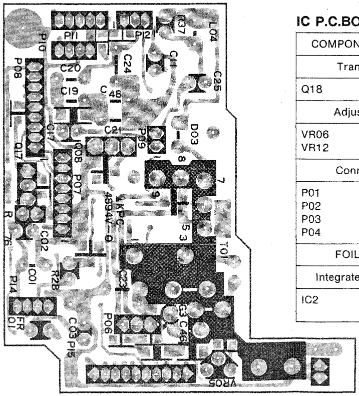
(FOIL SIDE)

DEFLECTION P.C.BOARD (VEP20326A)

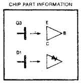

P05
P13
C03
FR01
P06
P15
VR05
P14
C52
D02
R65
G3
C22
C23
R28
C01
C-02
R76
P07
T01
Q17
Q08
D03
C25
P830107-01-1
C17
P08
C19
C20
C21
C48
C24
C11
P12
L04
R37
P10
P11

(COMPONENT SIDE)

DEFLECTION P.C.BOARD (VEP20326A)


P11
P12
R37
L04
P10
P08
C20
C24
Q11
C25
C19
C48
C21
P09
D03
C17
Q17
Q08
P07
▲KPC 4894V-0
T01
C02
C01
R28
P14
FR01
C03
P15
P06
C46
VR05

(FOIL SIDE)


CHIP PART INFORMATION

IC P.C.BOARD

COMPONENT SIDE	
Transistor	
Q18	F-2
Adjustment	
VR06 VR12	E-2 F-1
Connector	
P01 P02 P03 P04	G-2 G-1 E-2 F-2
FOIL SIDE	
Integrated Circuits	
IC2	G-4

VIDEO P.C.BOARD

COMPONENT SIDE	
Transistor	
Q03 Q05	F-7 G-7
Test Points	
TP01	G-6
Adjustment	
VR02 VR03 VR11	F-7 G-6 G-7
Connector	
P11 P16	F-6 F-7

DETECTION P.C.BOARD

COMPONENT SIDE	
Transistor	
Q08 Q17	C-3 C-3
Adjustments	
VR05	A-2
Connector	
P05 P06 P07 P08 P09 P10 P11 P12 P13 P14	A-2 A-3 B-3 C-3 C-2 D-3 D-3 D-3 A-1 A-3

VR P.C.BOARD

COMPONENT SIDE	
Connector	
P01 P05	G-11 G-11
Adjustment	
VR01 VR04 VR07 VR08 VR09 VR10	G-11 G-11 G-11 G-11 G-11 G-11

REG P.C.BOARD

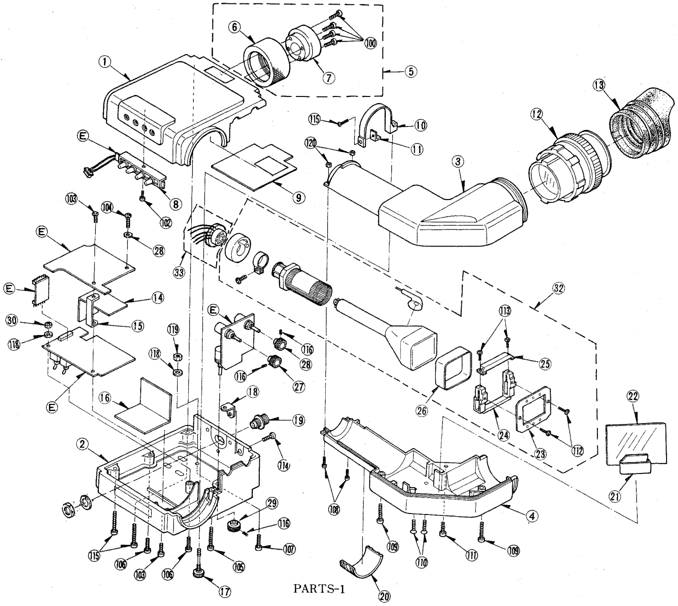
FOIL SIDE	
Integrated Circuits	
IC01	D-7

TALLY P.C.BOARD

FOIL SIDE	
Connector	
P13 P830	E-10 E-8

EXPLODED VIEWS (AQ-VF1)

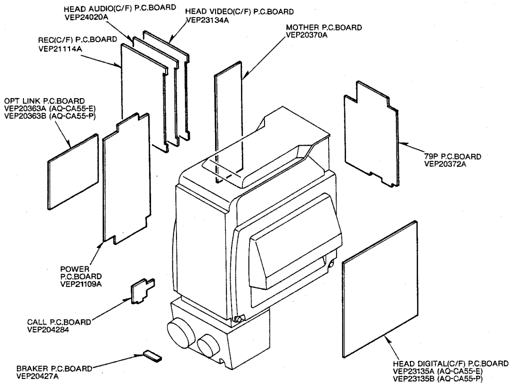
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1		VGM0711	TOP CASE	1	
2		VGM0712	BOTTOM CASE	1	
3		VGP2683	CRT TOP CASE	1	
4		VGP2682	CRT BOTTOM CASE	1	
5		VYC0555	HOLDER ANGLE U	1	
6		VMP3385	HOLDER ANGLE (2)	1	
7		VMP3384	HOLDER ANGLE (3)	1	
8		VJF0901	TARRY HOLDER	1	
9		VMZ1680	SHIELD COVER	1	
10		VGQ2306	CRT CASE BAND	1	
11		VMP2913	BAND HOLDER	1	
12		VXW0077	DIAPTER CONTROL U	1	
13		VMG0601	EYE CAP	1	
14		VMZ1678	SHIELD PLATE	1	
15		VMP2915	P.C.BOARD HOLDER ANGLE	1	
16		VMZ1679	SHIELD PLATE	1	
17		VHD0653	BAND KNOB	1	
18		VMP2916	P.C.BOARD HOLDER ANGLE	1	
19		VEK5370	CONNECTOR U	1	
20		VMX1898	CRT CASE SPACER	1	
21		VMC0654	MIRROR HOLDER	1	
22		VDL0269	MIRROR	1	
23		VEK5209	CRT MASK U	1	
24		VJF0900	CRT HOLDER (1)	1	
25		VJF0899	CRT HOLDER (2)	1	
26		VMX1899	CRT SPACER	1	
27		VXU1010	KNOB(B)	1	
28		VXU1011	KNOB(C)	1	
29		VXU1012	KNOB(P)	1	
30		VMX1900	WASHER	2	
32		VEK5371	CRT U	1	
33		VEK5403	CRT SOCKET U	1	
100		XSN26+12FZ	SCREW	4	
102		XSN2+4	SCREW	1	
103		XSN26+4FZ	SCREW	2	
104		XSN26+6	SCREW	1	
105		XSN3+20FZ	SCREW	3	
106		XSN26+14FZ	SCREW	2	
107		XSS26+8CFZ	SCREW	1	
108		XSN2+6	SCREW	2	
109		XTN3+25CFZ	SCREW	2	
110		XTS2+6CFZV	SCREW	2	
111		XTN3+8CFZ	SCREW	1	
112		XTN2+6CFZ	SCREW	2	
113		XTN2+10C	SCREW	2	
114		XSS2+6FZ	SCREW	1	
115		XSS26+4	SCREW	1	
116		XXE2D3FZ	HEX SCREW	3	
118		XWA26BFX	WASHER	2	
119		XNG26E	NUT	1	
120		XNG2F	NUT	2	
121		XWA26BVW	WASHER	4	



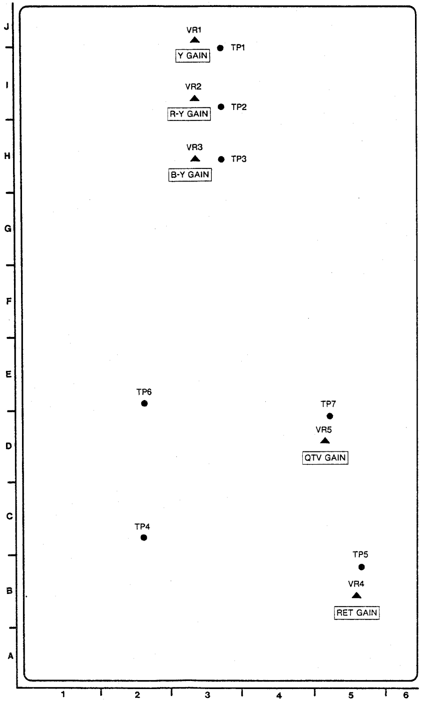
ELECTRICAL PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP20326A	P.C.BOARD W/COMPONENT	1	
			DEFLECTION		
		VEP20327A	P.C.BOARD W/COMPONENT	1	
			IC		
		VEP20328A	P.C.BOARD W/COMPONENT	1	
			VIDEO		
		VEP20329A	P.C.BOARD W/COMPONENT	1	FOR AQ-VF1-P
			VR		
		VEP20329B	P.C.BOARD W/COMPONENT	1	FOR AQ-VF1-E
			VR		
		VEP20331A	P.C.BOARD W/COMPONENT	1	
			REG IC		
		VEP20330A	P.C.BOARD W/COMPONENT	1	
			TALLY		
		VEK5209	CRT MASK U	1	
	■	VEP20326A	P.C.BOARD W/COMPONENT		
			DEFLECTION		
			CAPACITORS		
C1		ECEA1VGE101	E.CAPACITOR 35V 100U	1	
C2		VCEA1VR104	E.CAPACITOR 35V 0.1U	1	
C3		ECEA1CGE470	E.CAPACITOR 16V 100U	1	
C11		ECEA2AFE120	E.CAPACITOR 100V 12U	1	
C17		ECEA1HKG3R3	E.CAPACITOR 50V 3.3U	1	
C19		VCF0066J392	P.CAPACITOR 160V 3900P	1	
C20		VCF0066J103	P.CAPACITOR 160V 0.01U	1	
C21		VCF0066J392	P.CAPACITOR 160V 3900P	1	
C21		VCF0066J472	P.CAPACITOR 160V 4700P	1	
C22		VCK0099	C.CAPACITOR 1KV 4700P	1	
C23		VCK0100K472	C.CAPACITOR 500V 4700P	1	
C24		VCF0066J103	P.CAPACITOR 160V 0.01U	1	
C25		ECEA1CGE101	E.CAPACITOR 16V 100U	1	
C52		VCF0066J103	P.CAPACITOR 160V 0.01U	1	
C54		ECKD2H103KB	C.CAPACITOR 500V 0.01U	1	
D1		MA152K	DIODE	1	
D2		V11N	DIODE	1	
D3		V06C	DIODE	1	
D5		1SS123	DIODE	1	
FR1		VEK6177	FUSE	1	WITH RESISTOR
L4		VLQ0485	COIL	1	
P5		VJP2036	CONNECTOR (MALE)	1	
P6		VJP3072	CONNECTOR (MALE)	1	
P7		VJP3018A008	CONNECTOR (MALE)	1	
P8		VJP3018A009	CONNECTOR (MALE)	1	
P9		VJP3018A002	CONNECTOR (MALE)	1	
P10		VJP3018A004	CONNECTOR (MALE)	1	
P12		VJP3018A003	CONNECTOR (MALE)	1	
P13		VJP3018B002	CONNECTOR (MALE)	1	
P14		VJP3018A004	CONNECTOR (MALE)	1	
P15		VJP3124	CONNECTOR (MALE)	1	
Q7		2SC1622AD16	TRANSISTOR	1	
Q8		2SD2115L	TRANSISTOR	1	
Q17		2SA950	TRANSISTOR	1	
			RESISTORS		
R28		VRE0062E561	M.RESISTOR CH 1/4W 560	1	
R29		ERJ8GEYJ103	M.RESISTOR CH 1/8W 10K	1	
R30		ERJ6GEYJ564	M.RESISTOR CH1/10W 560K	1	
R31,32		ERJ8GEYJ155	M.RESISTOR CH 1/8W 1.5M	2	
R33		ERJ6GEYJ824	M.RESISTOR CH1/10W 820K	1	
R34~36		ERJ6GEYJ105	M.RESISTOR CH1/10W 1M	3	
R37		VRE0062E222	M.RESISTOR CH 1/4W 22K	1	
R65		VRE0061F562	M.RESISTOR CH 1/2W 5.6K	1	
R74		ERJ6GEYJ472	M.RESISTOR CH1/10W 4.7K	1	
R75		ERJ6GEYJ682	M.RESISTOR CH1/10W 6.8K	1	
R76		VRE0061F391	M.RESISTOR CH 1/2W 390	1	
R78		VRE0034E150	M.RESISTOR CH1/10W 15	1	
T1		VTD0059	TRANSFORMER	1	
VR5		VRV0069B105	V.RESISTOR 1M	1	
	■	VEP20327A	P.C.BOARD W/COMPONENT		
			IC		
			CAPACITORS		
C13		ECEA1HKG010	E.CAPACITOR 50V 10U	1	
C14		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C15		ECEA1HKG010	E.CAPACITOR 50V 1U	1	
C16		ECEA1CGE101	E.CAPACITOR 16V 100U	1	
C18		ECEA2AGE0R1	E.CAPACITOR 100V 0.1U	1	
C26		VCF1HBB223	C.CAPACITOR 50V 0.022U	1	
C27		ECEA1CKG100	E.CAPACITOR 16V 10U	1	
C28		VCK0101Z104	C.CAPACITOR 50V 0.1U	1	
C29		ECEA1HKGR22	E.CAPACITOR 50V 0.22U	1	
C30		VCF1HBB682	P.CAPACITOR 50V 6800P	1	
C31		ECEA1CKG100	E.CAPACITOR 16V 10U	1	
C32		VCF1HBC472	P.CAPACITOR 50V 4700P	1	
C33		VCK0101Z104	C.CAPACITOR 50V 0.1U	1	
C34		VCK0101K473	C.CAPACITOR 50V 0.047U	1	
C35		ECEA1HKG010	E.CAPACITOR 50V 1U	1	
C36		VCEA1VR105	E.CAPACITOR 35V 1U	1	
C37		VCF1HBA472	P.CAPACITOR 50V 4700P	1	
C38		ECSF1CE686	T.CAPACITOR 16V 68U	1	
C39		ECEA1HKG3R3	E.CAPACITOR 50V 3.3U	1	
C40		ECEA1HKG0R1	E.CAPACITOR 50V 0.1U	1	
C41		VCK0101J201	C.CAPACITOR 50V 200P	1	
C42		ECEA1CKG100	E.CAPACITOR 16V 10U	1	
C43		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C44		ECEA0JFE221	E.CAPACITOR 6.3V 220U	1	
C45		ECEA1CKG100	E.CAPACITOR 16V 10U	1	
C53		VCF1HBB272	P.CAPACITOR 50V 2700P	1	
D6,7		1SS123	DIODE	2	

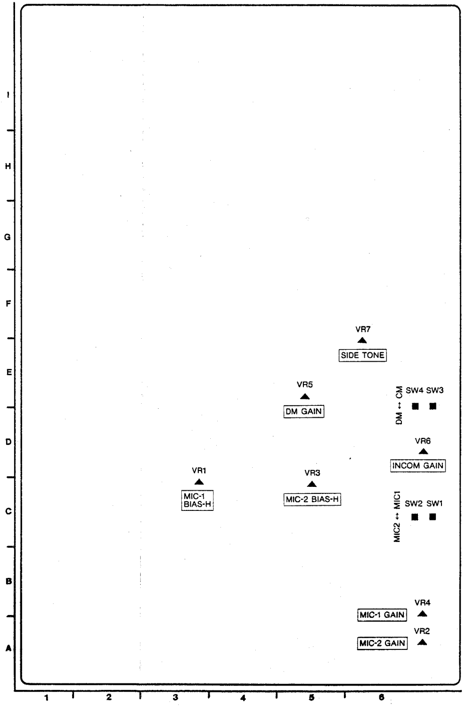
P.C.BOARD LOCATION


HEAD AUDIO(C/F) P.C.BOARD
VEP24020A
HEAD VIDEO(C/F) P.C.BOARD
VEP23134A
MOTHER P.C.BOARD
VEP20370A
REC(C/F) P.C.BOARD
VEP21114A
OPT LINK P.C.BOARD
VEP20363A (AQ-CA55-E)
VEP20363B (AQ-CA55-P)
79P P.C.BOARD
VEP20372A
POWER
P.C.BOARD
VEP21109A
CALL P.C.BOARD
VEP204284
BRAKER P.C.BOARD
VEP20427A
HEAD DIGITAL(C/F) P.C.BOARD
VEP23135A (AQ-CA55-E)
VEP23135B (AQ-CA55-P)

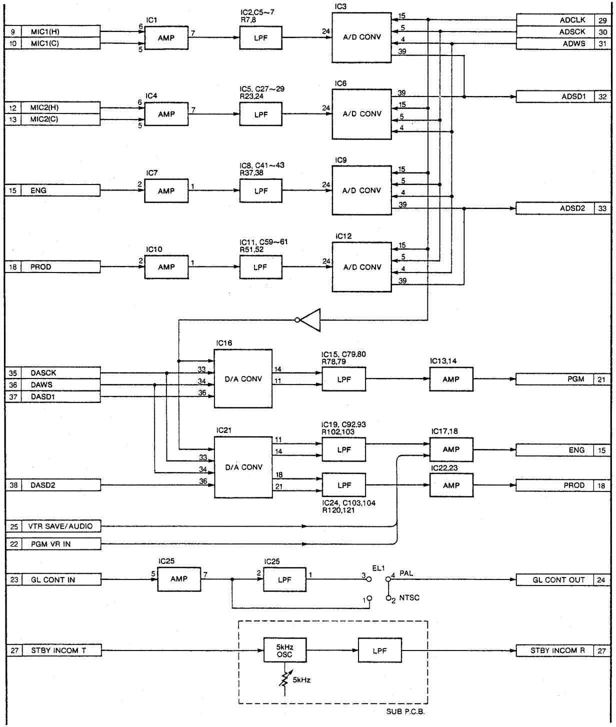
VIDEO C/F P.C.BOARD


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
VR1
Y GAIN
TP1
VR2
R-Y GAIN
TP2
VR3
B-Y GAIN
TP3
TP6
TP7
VR5
QTV GAIN
TP4
TP5
VR4
RET GAIN

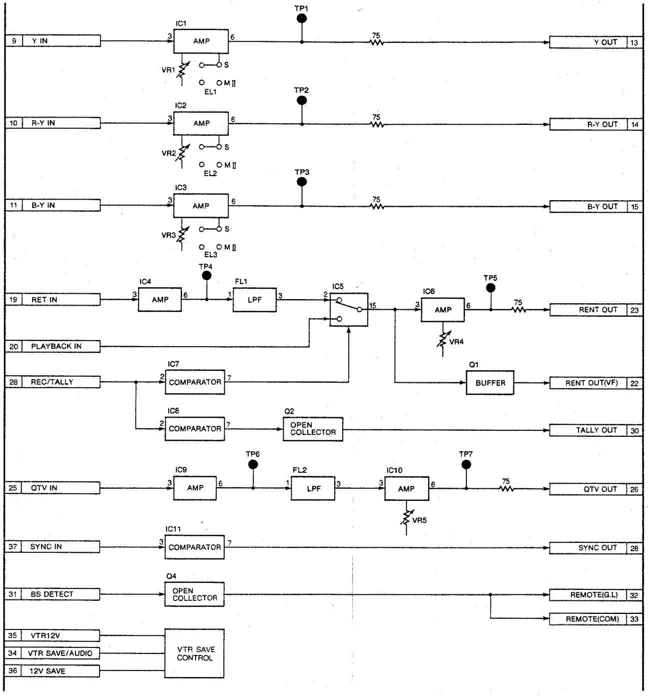
79P P.C.BOARD


I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
VR7
SIDE TONE
VR5
DM GAIN
DM ↔ CM
SW4 SW3
VR6
INCOM GAIN
VR1
MIC-1
BIAS-H
VR3
MIC-2 BIAS-H
MIC2 ↔ MIC1
SW2 SW1
VR4
MIC-1 GAIN
VR2
MIC-2 GAIN

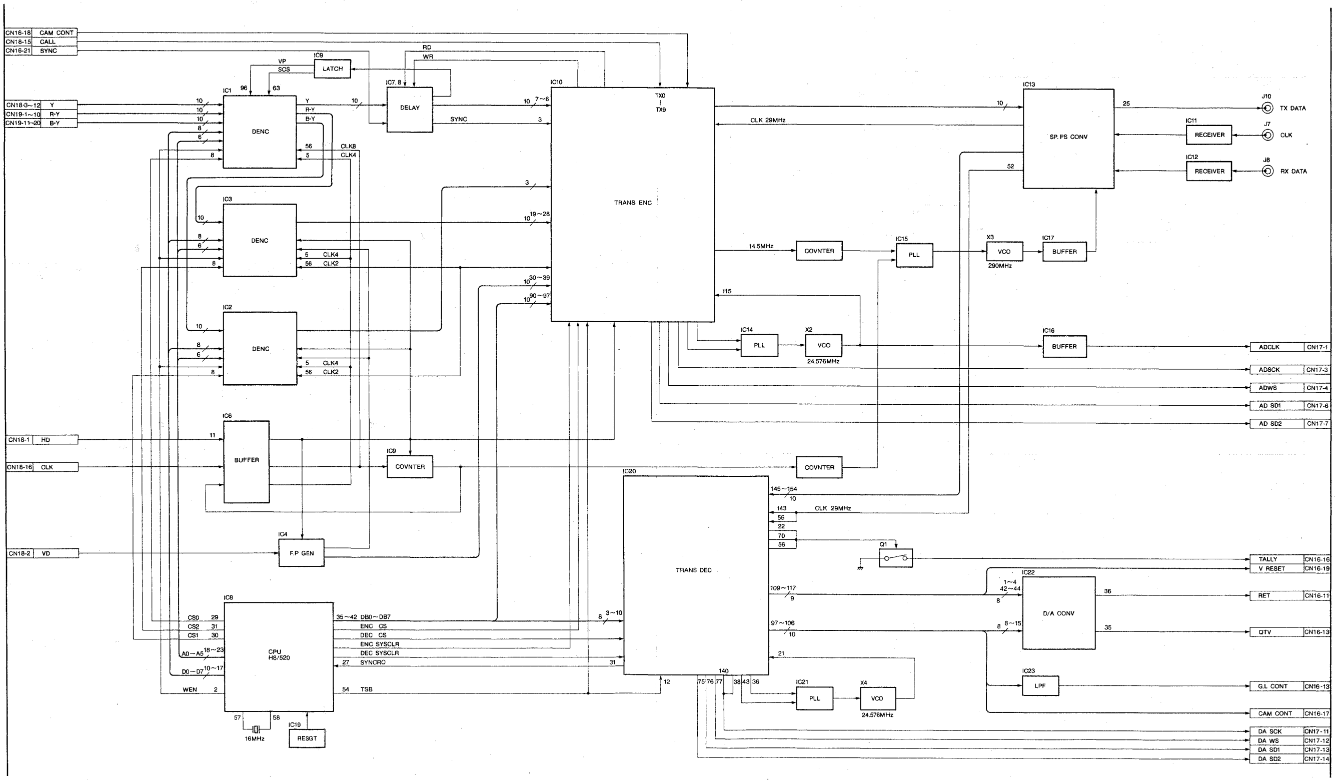
HEAD AUDIO(C/F) BLOCK DIAGRAM


9 MIC1(H)
10 MIC1(C)
IC1 AMP
IC2,C5~7 R7,8 LPF
IC3 A/D CONV
ADCLK 29
ADSCK 30
ADWS 31
12 MIC2(H)
13 MIC2(C)
IC4 AMP
IC5, C27~29 R23,24 LPF
IC6 A/D CONV
ADSD1 32
15 ENG
IC7 AMP
IC8, C41~43 R37,38 LPF
IC9 A/D CONV
ADSD2 33
18 PROD
IC10 AMP
IC11, C59~61 R51,52 LPF
IC12 A/D CONV
35 DASCK
36 DAWS
37 DASD1
IC16 D/A CONV
IC15, C79,80 R78,79 LPF
IC13,14 AMP
PGM 21
IC21 D/A CONV
IC19, C92,93 R102,103 LPF
IC17,18 AMP
ENG 15
38 DASD2
IC24, C103,104 R120,121 LPF
IC22,23 AMP
PROD 18
25 VTR SAVE/AUDIO
22 PGM VR IN
23 GL CONT IN
IC25 AMP
IC25 LPF
EL1
PAL
NTSC
GL CONT OUT 24
27 STBY INCOM T
5kHz OSC
5kHz
LPF
STBY INCOM R 27
SUB P.C.B.

HEAD VIDEO(C/F) BLOCK DIAGRAM

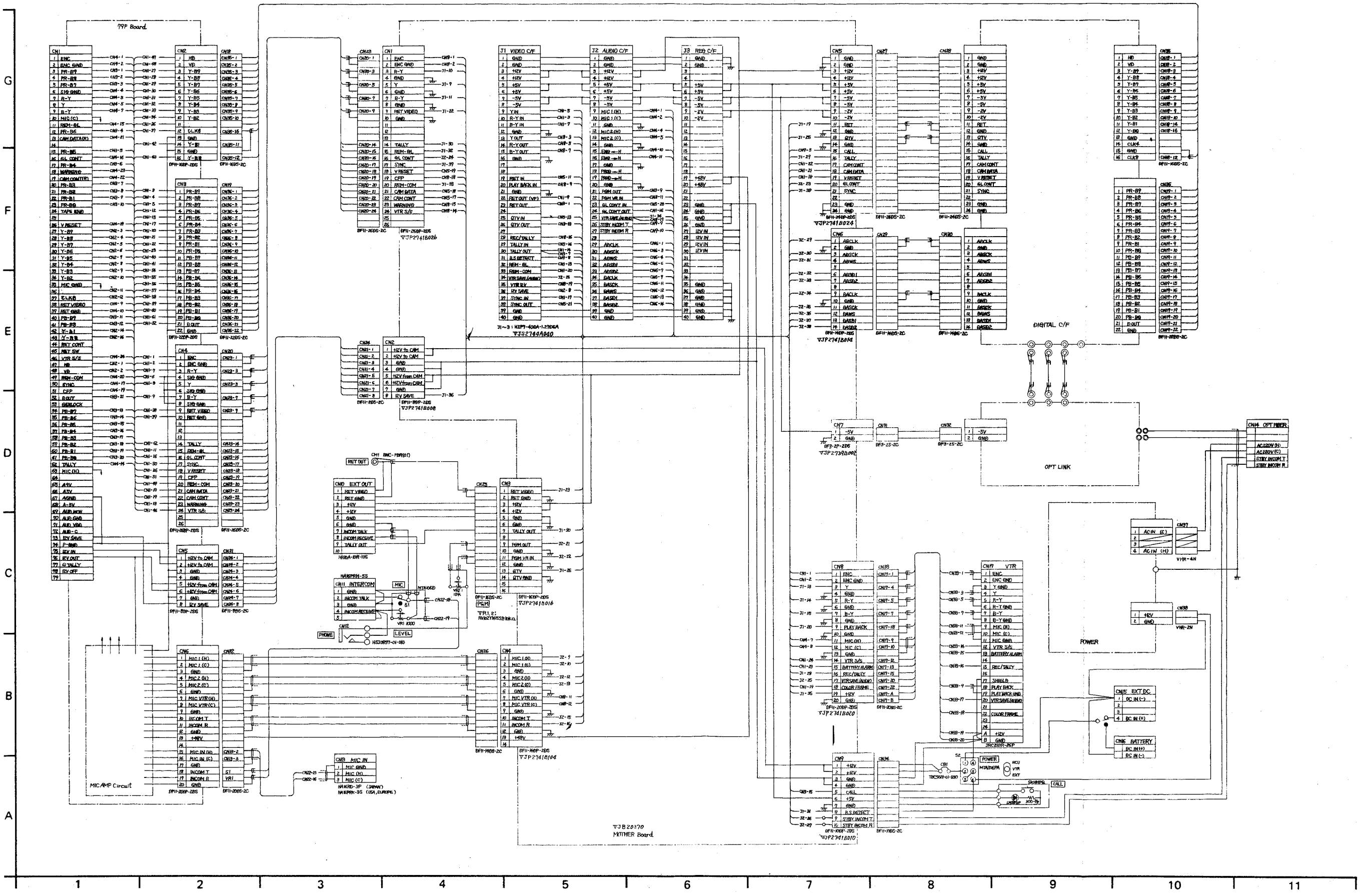

9 Y IN
IC1 AMP
VR1
EL1
S
M II
TP1
75
Y OUT 13
10 R-Y IN
IC2 AMP
VR2
EL2
TP2
R-Y OUT 14
11 B-Y IN
IC3 AMP
VR3
EL3
TP3
B-Y OUT 15
19 RET IN
IC4 AMP
TP4
FL1 LPF
IC5
IC6 AMP
VR4
TP5
RENT OUT 23
20 PLAYBACK IN
28 REC/TALLY
IC7 COMPARATOR
Q1 BUFFER
RENT OUT(VF) 22
IC8 COMPARATOR
Q2 OPEN COLLECTOR
TALLY OUT 30
25 QTV IN
IC9 AMP
TP6
FL2 LPF
IC10 AMP
VR5
TP7
QTV OUT 26
37 SYNC IN
IC11 COMPARATOR
SYNC OUT 28
31 BS DETECT
Q4 OPEN COLLECTOR
REMOTE(G.L) 32
REMOTE(COM) 33
35 VTR12V
34 VTR SAVE/AUDIO
36 12V SAVE
VTR SAVE CONTROL

HEAD DIGITAL(C/F) BLOCK DIAGRAM

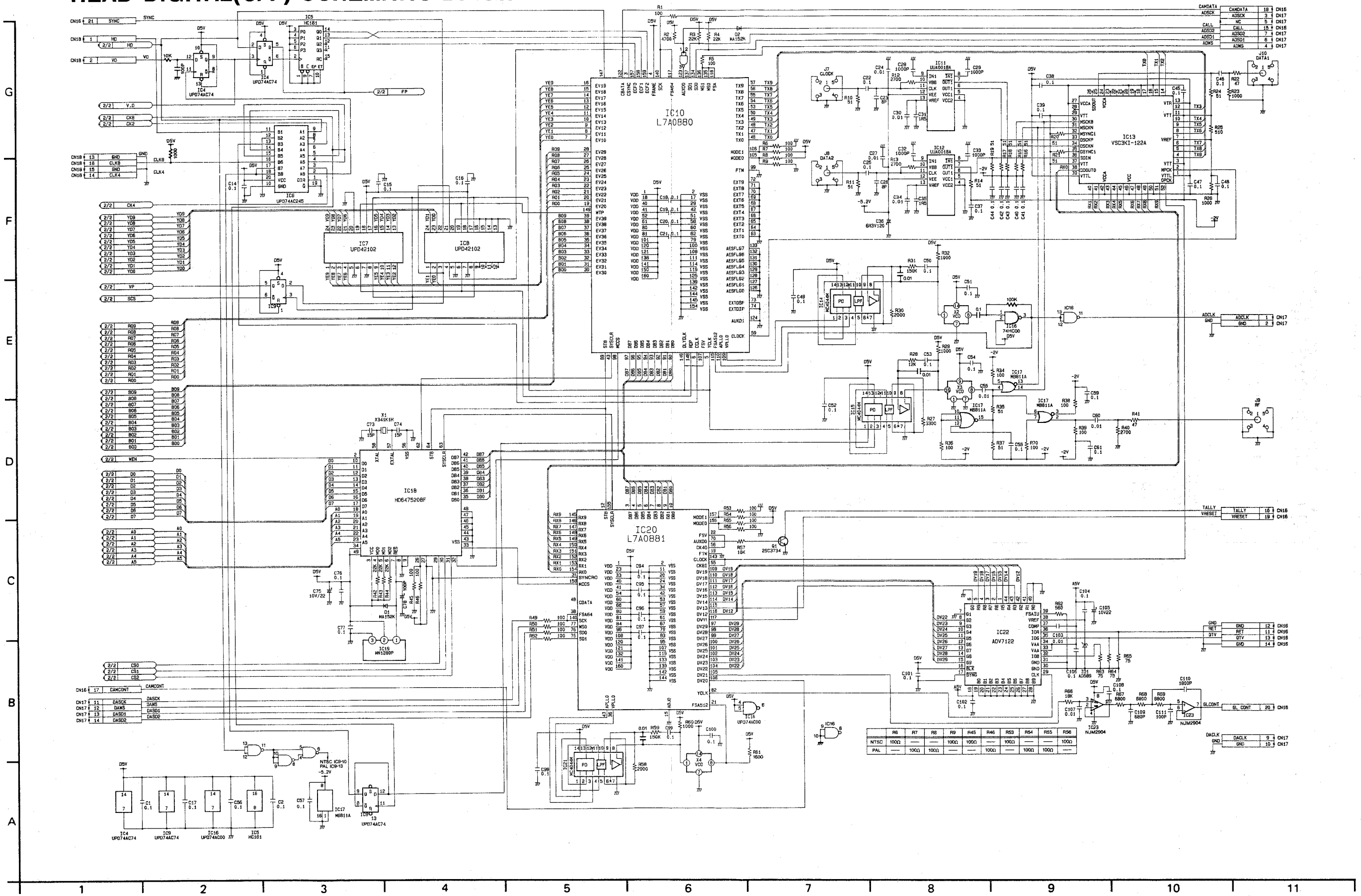

CN16-18 CAM CONT
CN18-15 CALL
CN16-21 SYNC
CN18-3~12 Y
CN19-1~10 R-Y
CN19-11~20 B-Y
IC9 LATCH
VP
SCS
RD
WR
IC1 DENC
96
63
Y
R-Y
B-Y
56 CLK8
5 CLK4
IC7, 8 DELAY
SYNC
IC3 DENC
5 CLK4
56 CLK2
IC2 DENC
5 CLK4
56 CLK2
IC10 TRANS ENC
TX0 ~ TX9
7~6
19~28
30~39
90~97
115
CLK 29MHz
14.5MHz
COVNTER
IC15 PLL
X3 VCO 290MHz
IC17 BUFFER
IC13 SP. PS CONV
25
52
J10 TX DATA
IC11 RECEIVER
J7 CLK
IC12 RECEIVER
J8 RX DATA
IC14 PLL
X2 VCO 24.576MHz
IC16 BUFFER
ADCLK CN17-1
ADSCK CN17-3
ADWS CN17-4
AD SD1 CN17-6
AD SD2 CN17-7
CN18-1 HD
CN18-16 CLK
IC6 BUFFER
11
IC9 COVNTER
COVNTER
CN18-2 VD
IC4 F.P GEN
IC8 CPU H8/520
CS0 29
CS2 31
CS1 30
A0~A5 18~23
D0~D7 10~17
WEN 2
35~42 DB0~DB7
ENC CS
DEC CS
ENC SYSCLR
DEC SYSCLR
27 SYNCRO
54 TSB
57
58
16MHz
IC19 RESGT
IC20 TRANS DEC
3~10
31
12
145~154
143 CLK 29MHz
55
22
70
56
109~117
97~106
21
140
75 76 77 38 43 36
Q1
IC21 PLL
X4 VCO 24.576MHz
IC22 D/A CONV
1~4
42~44
8~15
36
35
IC23 LPF
TALLY CN16-16
V RESET CN16-19
RET CN16-11
QTV CN16-13
G.L CONT CN16-13
CAM CONT CN16-17
DA SCK CN17-11
DA WS CN17-12
DA SD1 CN17-13
DA SD2 CN17-14

REVERSE SIDE AUDIO
BLOCK DIAGRAM

INTERCONNECTION


79P Board
J1 VIDEO C/F
J2 AUDIO C/F
J3 REG C/F
DIGITAL C/F
OPT LINK
CN14 OPT FIBER
AC220V (H)
AC220V (C)
STBY INCOM T
STBY INCOM R
POWER
CN15 EXT DC
CN16 BATTERY
CN17 VTR
CN10 EXT OUT
RET OUT
CN11 INTERCOM
MIC
PHONE
LEVEL
PGM
CN8 MIC IN
MIC AMP Circuit
CALL
VJB20370
MOTHER Board
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

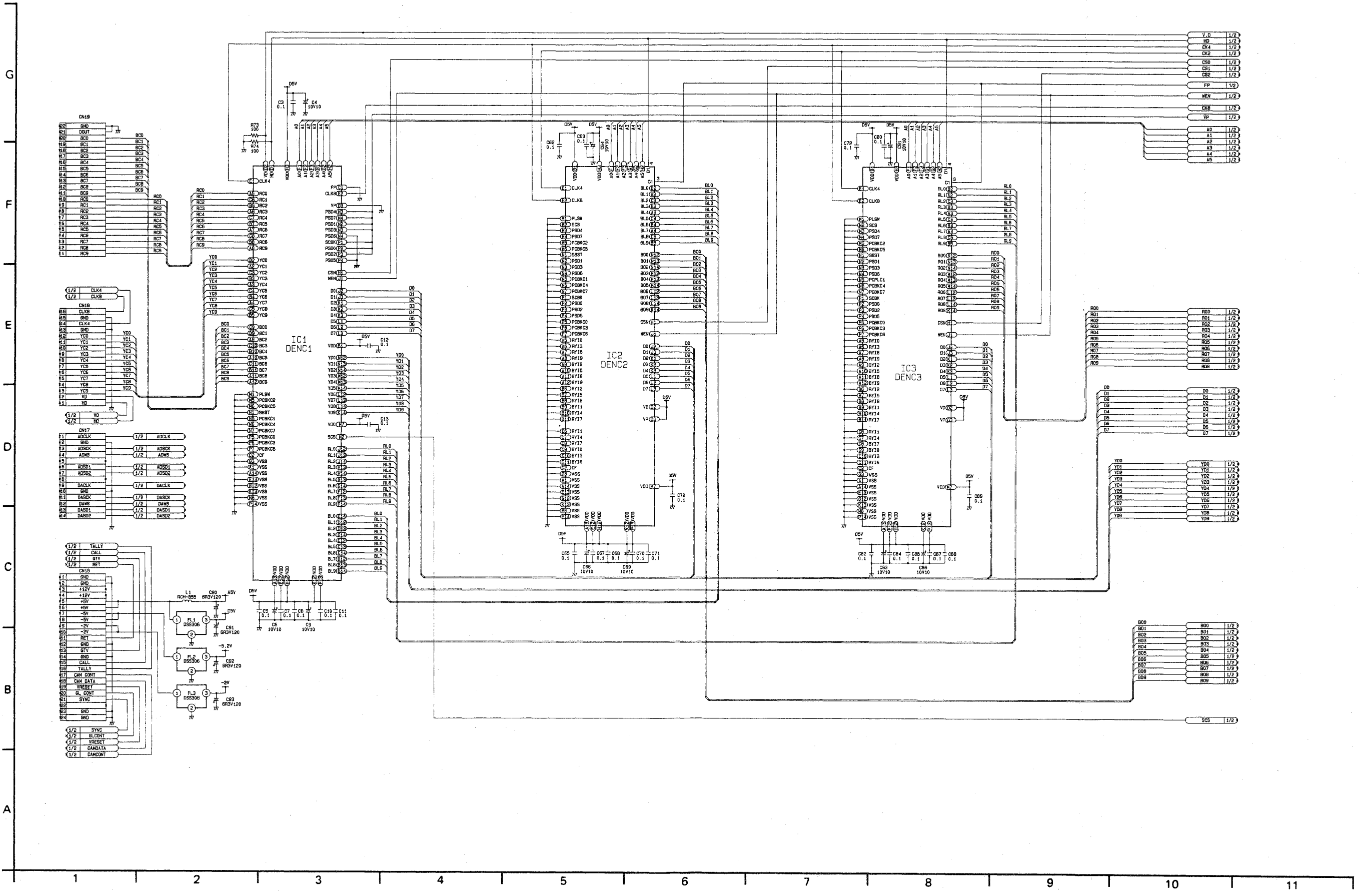
HEAD DIGITAL(C/F) SCHEMATIC DIAGRAM1/2


IC10
L7A0880
IC20
L7A0881
IC18
HD6475208F
IC7
UPD42102
IC8
UPD42102
IC13
VSC3KI-122A
IC11
UJA0018A
IC12
UJA0018A
IC22
ADV7122
IC14
MC4044M
IC15
MC4044M
IC21
MC4044M
IC6
UPD74AC245
IC5
HC161
IC4
UPD74AC74
IC19
MN1280P
IC23
NJM2904
IC16
74HC00
IC17
MB811A
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

	R6	R7	R8	R9	R45	R46	R53	R54	R55	R56
NTSC	100Ω	—	—	100Ω	100Ω	—	100Ω	—	—	100Ω
PAL	—	100Ω	100Ω	—	—	100Ω	—	100Ω	100Ω	—

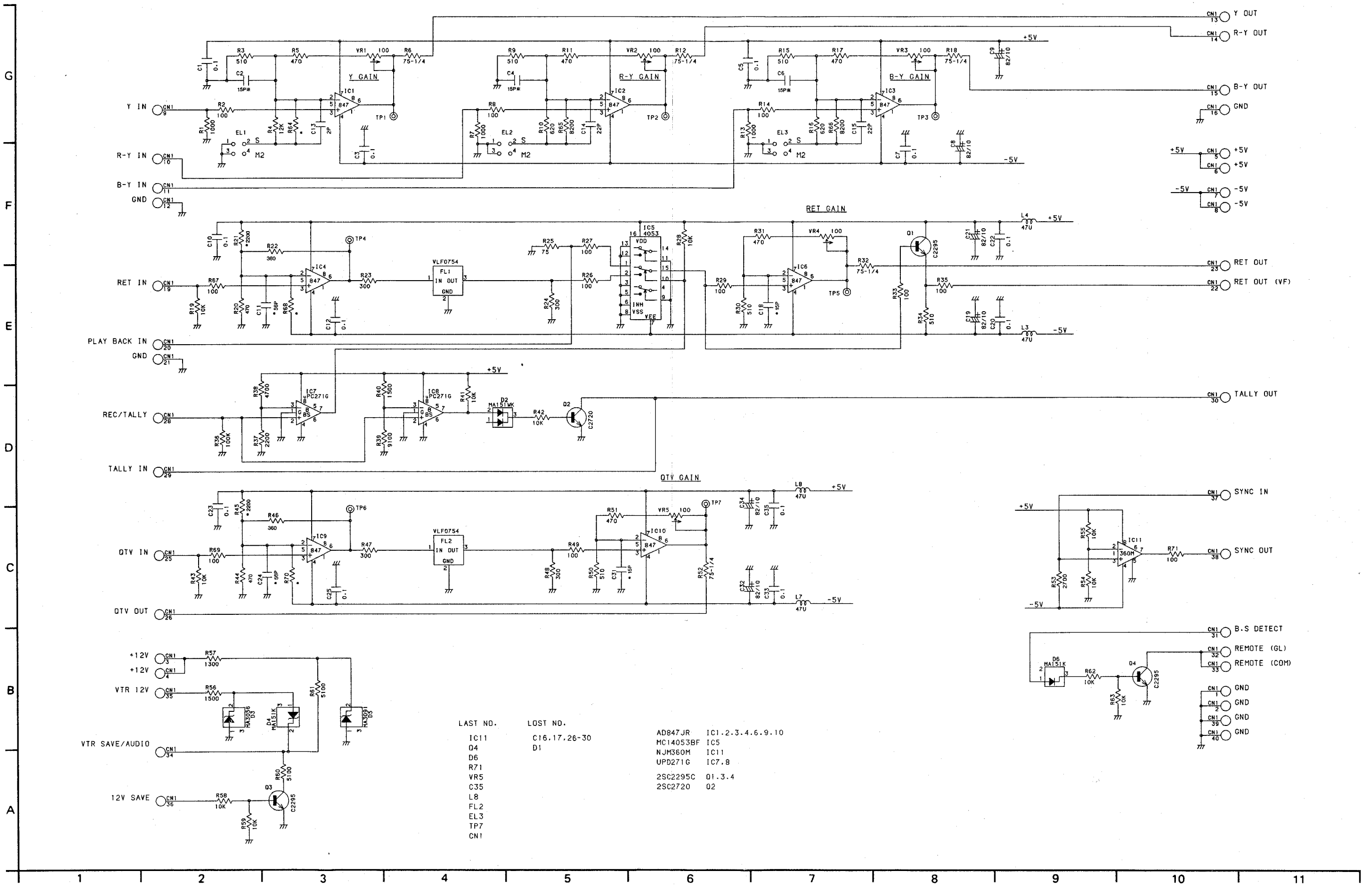
REVERSE SIDE **INTERCONNECTION**

HEAD DIGITAL(C/F) SCHEMATIC DIAGRAM2/2



G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
CN19
CN18
CN17
CN16
IC1
DENC1
IC2
DENC2
IC3
DENC3
FL1
DSS306
FL2
DSS306
FL3
DSS306
L1
RCH-855
D5V
A5V
-5.2V
-2V
R73
100
R74
100
V.D
HD
CK4
CK2
CS0
CS1
CS2
FP
WEN
CK8
VP
A0
A1
A2
A3
A4
A5
RO0
RO9
D0
D7
YD0
YD9
BO0
BO9
SCS
TALLY
CALL
QTV
RET
SYNC
GLCONT
VRESET
CAMDATA
CAMCONT
ADCLK
ADSCK
ADWS
ADSD1
ADSD2
DACLK
DASCK
DAWS
DASD1
DASD2
CLK4
CLK8
VD
HD
1/2

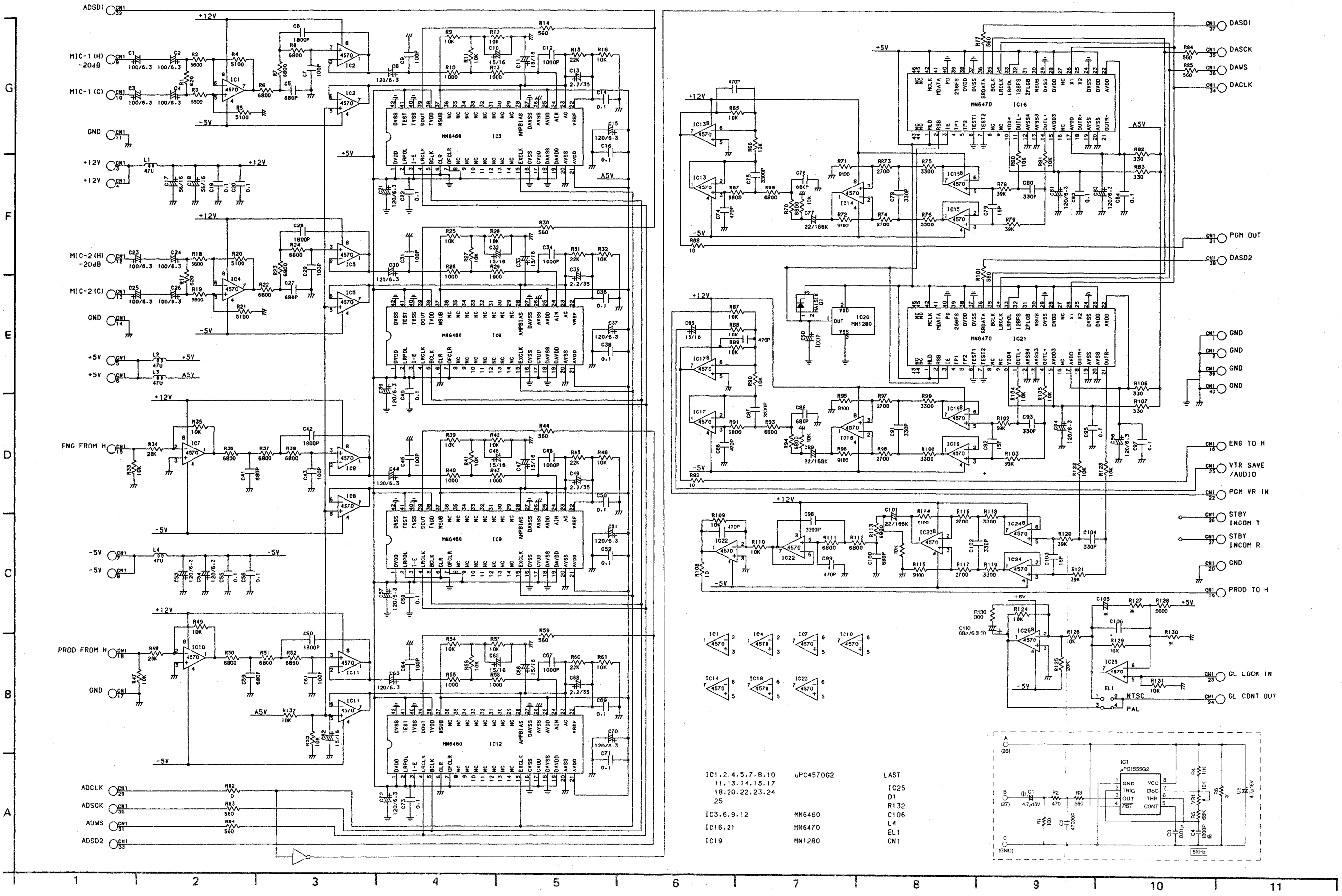
HEAD VIDEO(C/F) SCHEMATIC DIAGRAM


Y IN
R-Y IN
B-Y IN
GND
RET IN
PLAY BACK IN
GND
REC/TALLY
TALLY IN
QTV IN
QTV OUT
+12V
+12V
VTR 12V
VTR SAVE/AUDIO
12V SAVE
Y GAIN
R-Y GAIN
B-Y GAIN
RET GAIN
QTV GAIN
IC1 847
IC2 847
IC3 847
IC4 847
IC5 4053
IC6 847
IC7 PC271G
IC8 PC271G
IC9 847
IC10 847
IC11 360M
VLF0754 FL1 IN OUT GND
VLF0754 FL2 IN OUT GND
Q1 C2295
Q2 C2720
Q3 C2295
Q4 C2295
D2 MA151WK
D4 MA151K
D6 MA151K
D3 HA3036
D5 HA3036
TP1
TP2
TP3
TP4
TP5
TP6
TP7
EL1
EL2
EL3
+5V
-5V
Y OUT
R-Y OUT
B-Y OUT
GND
+5V
+5V
-5V
-5V
RET OUT
RET OUT (VF)
TALLY OUT
SYNC IN
SYNC OUT
B.S DETECT
REMOTE (GL)
REMOTE (COM)
GND
GND
GND
GND
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

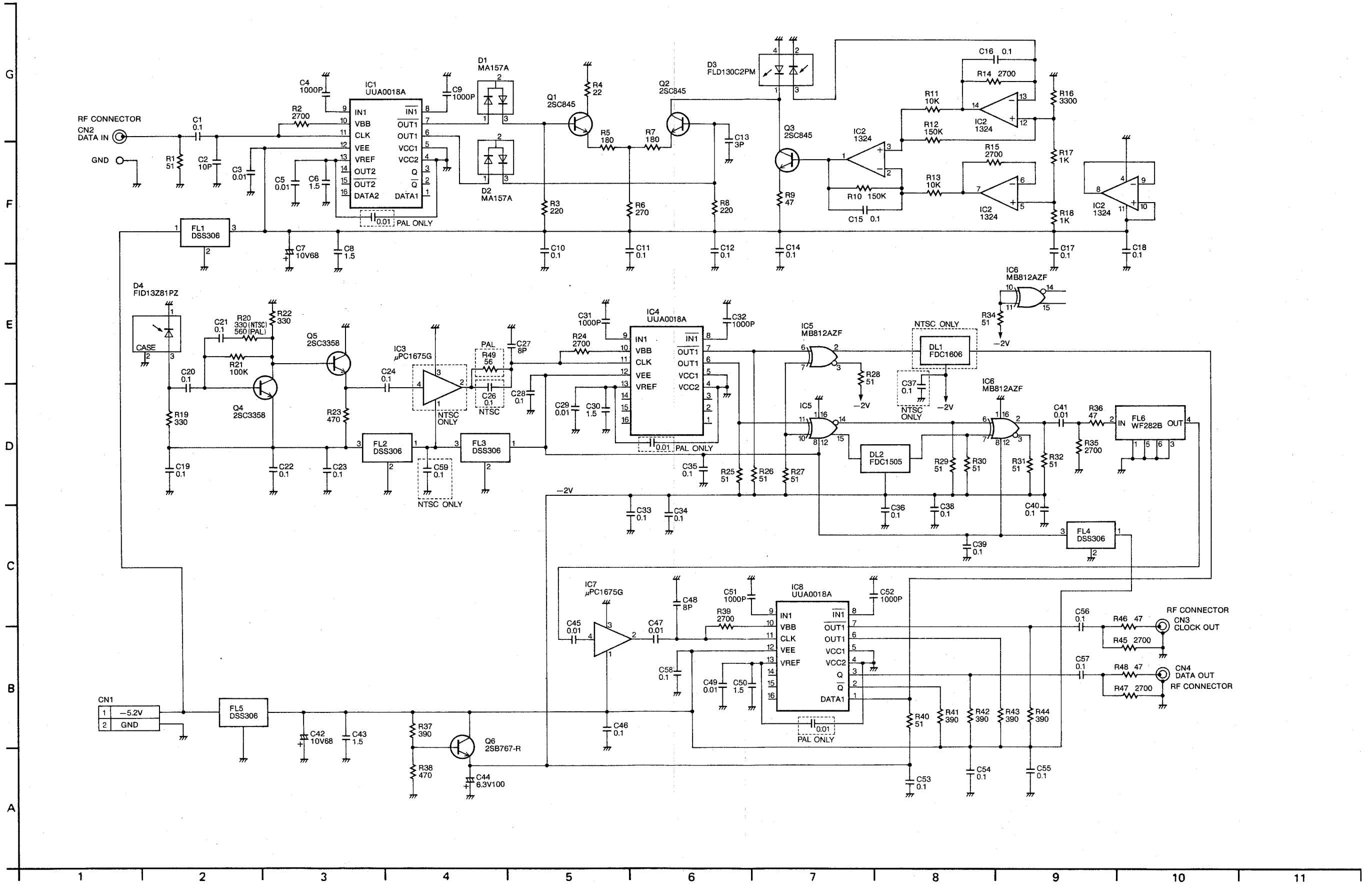
LAST NO.	LOST NO.
IC11	C16.17.26-30
Q4	D1
D6	
R71	
VR5	
C35	
L8	
FL2	
EL3	
TP7	
CN1	

AD847JR	IC1.2.3.4.6.9.10
MC14053BF	IC5
NJM360M	IC11
UPD271G	IC7.8
2SC2295C	Q1.3.4
2SC2720	Q2

HEAD AUDIO(C/F) SCHEMATIC DIAGRAM

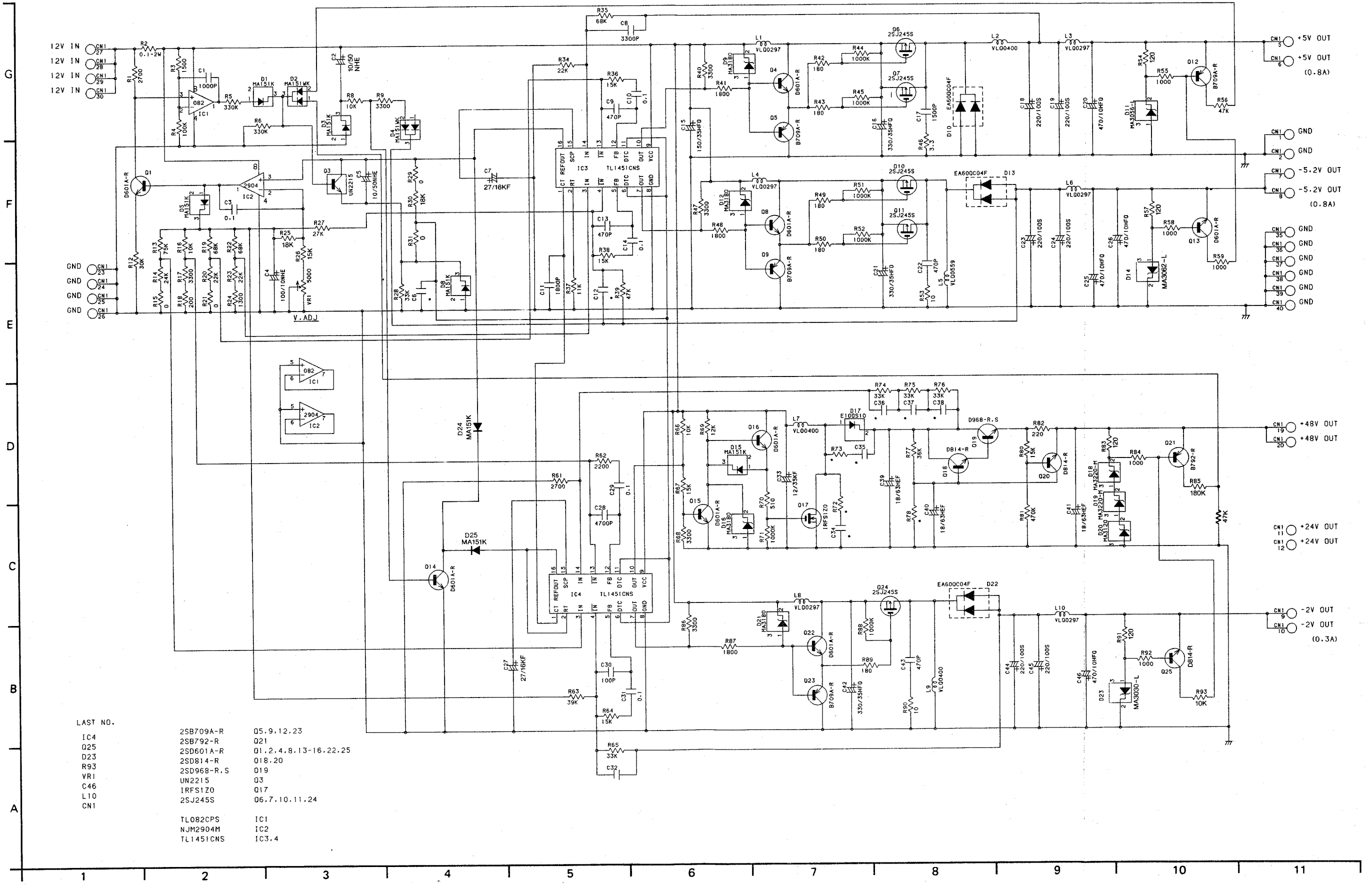

ADSD1
MIC-1 (H) -20dB
MIC-1 (C)
GND
+12V
+12V
MIC-2 (H) -20dB
MIC-2 (C)
GND
+5V
+5V
ENG FROM H
-5V
-5V
PROD FROM H
GND
ADCLK
ADSCK
ADWS
ADSD2
DASD1
DASCK
DAWS
DACLK
PGM OUT
DASD2
GND
GND
GND
GND
ENG TO H
VTR SAVE /AUDIO
PGM VR IN
STBY INCOM T
STBY INCOM R
GND
PROD TO H
GL LOCK IN
GL CONT OUT
NTSC
PAL
MN6460
IC3
IC6
IC9
IC12
MN6470
IC16
IC21
IC20 MN1280
μPC1555G2
5KHz
IC1,2,4,5,7,8,10 11,13,14,15,17 18,20,22,23,24 25 uPC4570G2
IC3,6,9,12 MN6460
IC16,21 MN6470
IC19 MN1280
LAST IC25 D1 R132 C106 L4 EL1 CN1
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

OPT LINK SCHEMATIC DIAGRAM


RF CONNECTOR
CN2
DATA IN
GND
R1 51
C1 0.1
C2 10P
C3 0.01
R2 2700
C4 1000P
IC1 UUA0018A
IN1
VBB
CLK
VEE
VREF
OUT2
OUT2
DATA2
IN1
OUT1
OUT1
VCC1
VCC2
Q
Q
DATA1
C5 0.01
C6 1.5
C9 1000P
0.01 PAL ONLY
D1 MA157A
D2 MA157A
Q1 2SC845
R4 22
R5 180
R7 180
Q2 2SC845
C13 3P
D3 FLD130C2PM
Q3 2SC845
R9 47
R3 220
R6 270
R8 220
FL1 DSS306
C7 10V68
C8 1.5
C10 0.1
C11 0.1
C12 0.1
C14 0.1
IC2 1324
R10 150K
C15 0.1
R11 10K
R12 150K
R13 10K
R14 2700
C16 0.1
R15 2700
R16 3300
R17 1K
R18 1K
C17 0.1
C18 0.1
IC6 MB812AZF
R34 51
−2V
D4 FID13Z81PZ
CASE
C21 0.1
R20 330 (NTSC) 560 (PAL)
R22 330
R21 100K
C20 0.1
Q4 2SC3358
Q5 2SC3358
R19 330
C19 0.1
C22 0.1
R23 470
C23 0.1
IC3 μPC1675G
C24 0.1
FL2 DSS306
C59 0.1
NTSC ONLY
FL3 DSS306
PAL
R49 56
C26 0.1
NTSC
C27 8P
C28 0.1
R24 2700
C31 1000P
IC4 UUA0018A
C32 1000P
C29 0.01
C30 1.5
0.01 PAL ONLY
C35 0.1
R25 51
R26 51
R27 51
IC5 MB812AZF
R28 51
NTSC ONLY
DL1 FDC1606
C37 0.1
DL2 FDC1505
C36 0.1
C38 0.1
R29 51
R30 51
R31 51
R32 51
C40 0.1
C41 0.01
R36 47
R35 2700
FL6 WF282B
IN
OUT
C33 0.1
C34 0.1
C39 0.1
FL4 DSS306
IC7 μPC1675G
C45 0.01
C47 0.01
C48 8P
C51 1000P
R39 2700
IC8 UUA0018A
C52 1000P
C58 0.1
C49 0.01
C50 1.5
0.01 PAL ONLY
C46 0.1
R40 51
R41 390
R42 390
R43 390
R44 390
C53 0.1
C54 0.1
C55 0.1
C56 0.1
R46 47
R45 2700
RF CONNECTOR
CN3
CLOCK OUT
C57 0.1
R48 47
R47 2700
CN4
DATA OUT
RF CONNECTOR
CN1
−5.2V
GND
FL5 DSS306
C42 10V68
C43 1.5
R37 390
R38 470
Q6 2SB767-R
C44 6.3V100
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

REVERSE SIDE HEAD AUDIO (C/F) SCHEMATIC DIAGRAM

REG(C/F) SCHEMATIC DIAGRAM

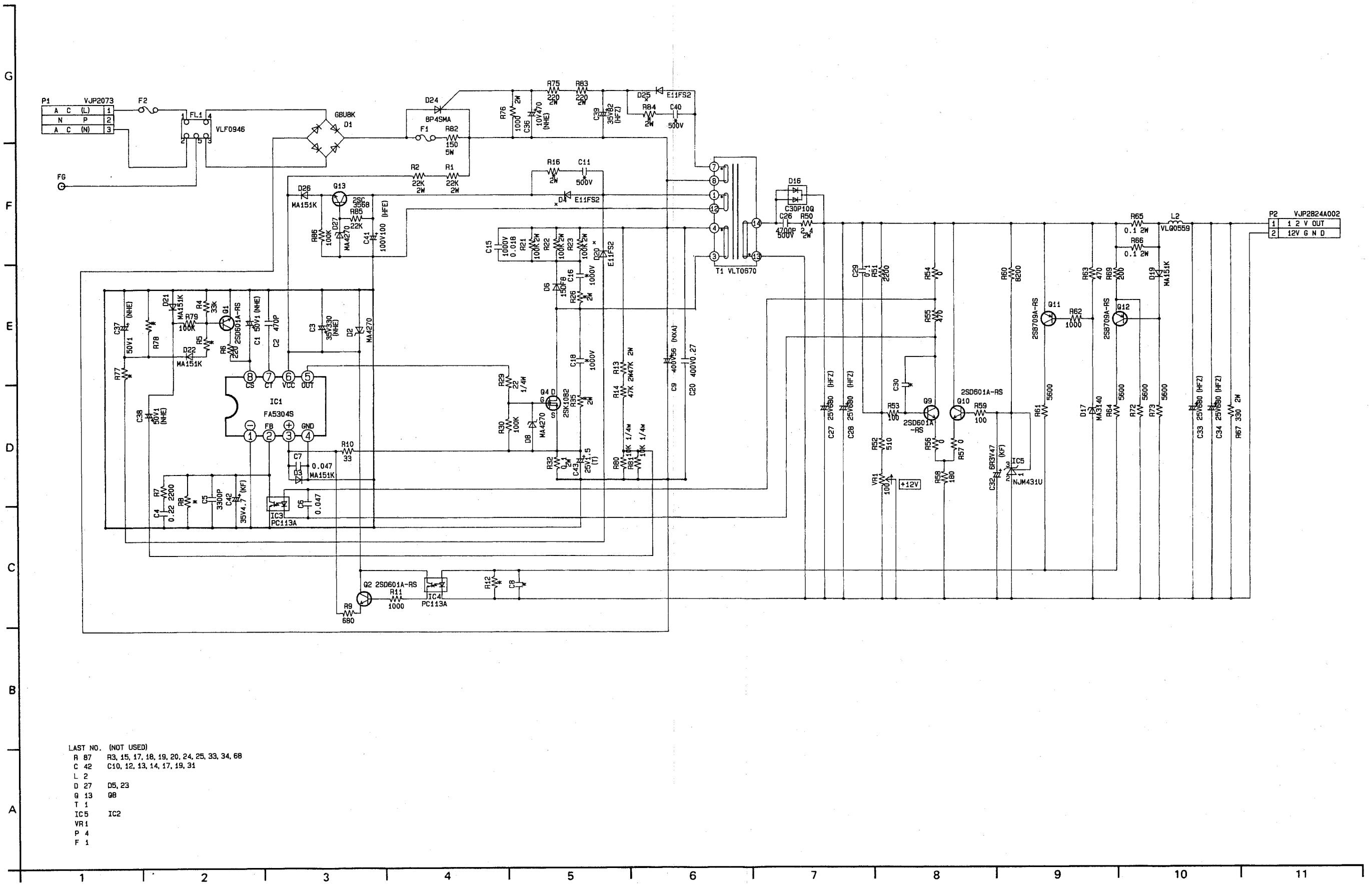

12V IN CN1 27
12V IN CN1 28
12V IN CN1 29
12V IN CN1 30
GND CN1 23
GND CN1 24
GND CN1 25
GND CN1 26
+5V OUT CN1 5
+5V OUT CN1 6
(0.8A)
GND CN1 1
GND CN1 2
-5.2V OUT CN1 7
-5.2V OUT CN1 8
(0.8A)
GND CN1 35
GND CN1 36
GND CN1 37
GND CN1 38
GND CN1 39
GND CN1 40
+48V OUT CN1 19
+48V OUT CN1 20
+24V OUT CN1 11
+24V OUT CN1 12
-2V OUT CN1 9
-2V OUT CN1 10
(0.3A)
IC1 082
IC2 2904
IC3 TL1451CNS
IC4 TL1451CNS
V.ADJ
VR1 5000
EA60QC04F D10
EA60QC04F D13
EA60QC04F D22
D968-R.S Q19
E10QS10 D17
IRFS1Z0 Q17
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

LAST NO.

IC4
Q25
D23
R93
VR1
C46
L10
CN1

2SB709A-R	Q5.9.12.23
2SB792-R	Q21
2SD601A-R	Q1.2.4.8.13-16.22.25
2SD814-R	Q18.20
2SD968-R.S	Q19
UN2215	Q3
IRFS1Z0	Q17
2SJ245S	Q6.7.10.11.24
TL082CPS	IC1
NJM2904M	IC2
TL1451CNS	IC3.4

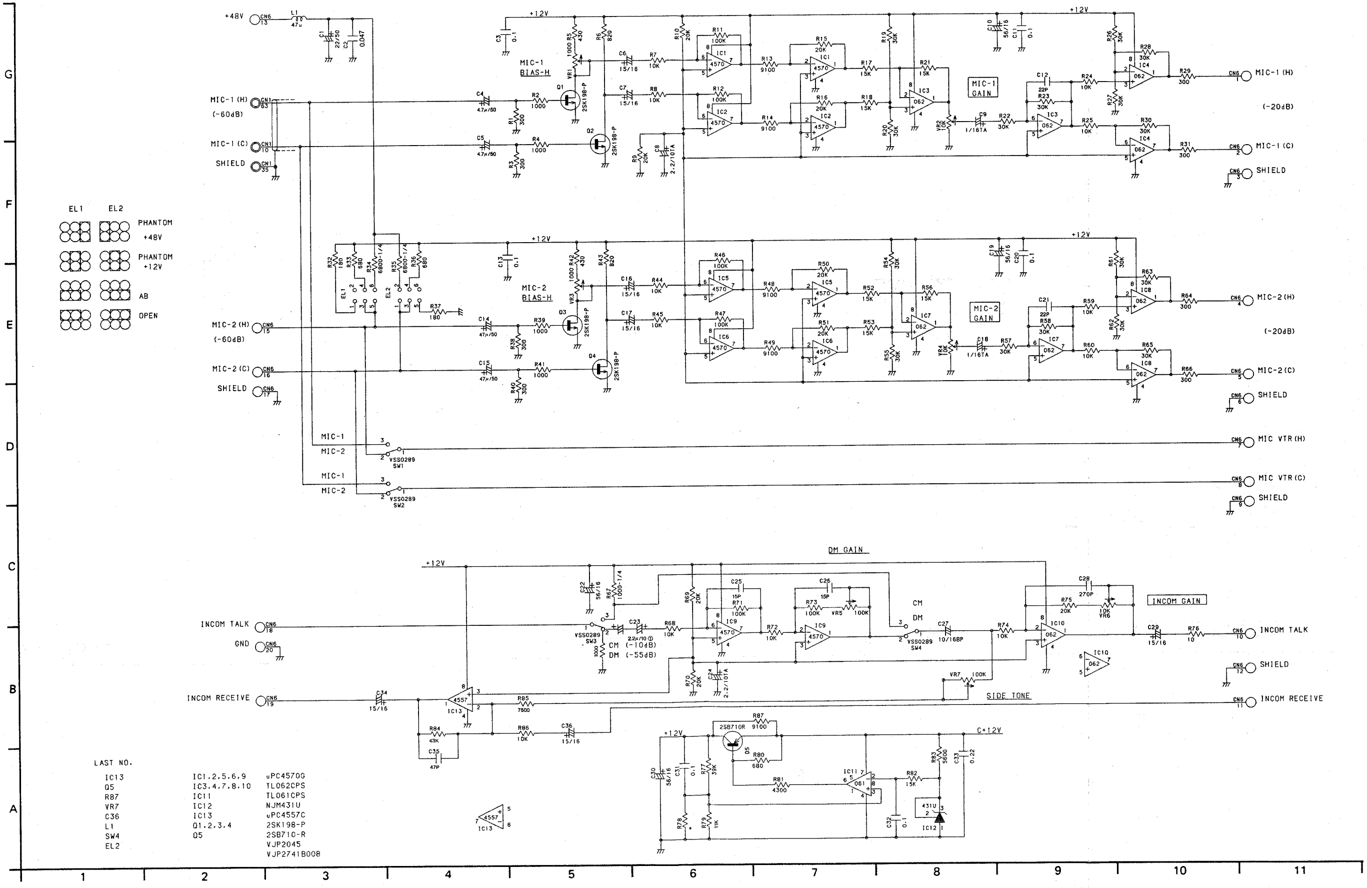
POWER SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
P1 VJP2073
A C (L) 1
N P 2
A C (N) 3
F2
FL1 VLF0946
FG
GBU8K D1
D24 BP4SMA
F1
R82 150 5W
R76 100 2W
C36 10V470 (NHE)
R75 220 2W
R83 220 2W
C39 35V82 (HFZ)
D25
R84 2W
C40 500V
E11FS2
R2 22K 2W
R1 22K 2W
R16 2W
C11 500V
D26 MA151K
Q13 2SC 3568
R85 22K
D27 MA4270
R86 100K
C41 100V100 (HFE)
D4 E11FS2
C15 1000V 0.018
R21 100K 2W
R22 100K 2W
R23 100K 2W
D20 E11FS2
D6 150F8
C16 1000V
R26 2W
T1 VLT0670
D16 C30P10Q
C26 4700P 500V
R50 2.4 2W
C37 50V1 (NHE)
R78
D21 MA151K
R79 100K
R4 33k
Q1 2SD601A-RS
C1 50V1 (NHE)
C2 470P
C3 35V330 (NHE)
D2 MA4270
R5
R6 220
D22 MA151K
R77
IC1 FA5304S
8 CS
7 CT
6 VCC
5 OUT
1 −
2 FB
3 +
4 GND
C38 50V1 (NHE)
R29 22 1/4W
R30 100K
Q4 2SK1082
D8 MA4270
R35 2W
C18 1000V
R13 47K 2W
R14 47K 2W
C9 400V56 (NXA)
C20 400V0.27
R10 33
C7
D3 MA151K
0.047
R7 2200
C4 0.22
R8
C5 3300P
C42 35V4.7 (KF)
IC3 PC113A
C6 0.047
R32 0.1 2W
C43 25V1.5 (T)
R80 10K 1/4W
R81 10K 1/4W
C27 25V680 (HFZ)
C28 25V680 (HFZ)
C29 0.1
R51 2200
R54
R55 470
C30
R53 100
Q9 2SD601A -RS
Q10 2SD601A-RS
R59 100
R52 510
VR1 100
+12V
R56
R57 0
R58 180
R60 8200
C32 6R3V47 (KF)
IC5 NJM431U
R61 5600
Q11 2SB709A-RS
R62 1000
Q12 2SB709A-RS
R63 470
R69 200
D19 MA151K
D17 MA3140
R64 5600
R72 5600
R73 5600
R65 0.1 2W
R66 0.1 2W
L2 VLQ0559
C33 25V680 (HFZ)
C34 25V680 (HFZ)
R67 330 2W
P2 VJP2824A002
1 12 V OUT
2 12V G N D
Q2 2SD601A-RS
R11 1000
IC4 PC113A
R9 680
R12
C8

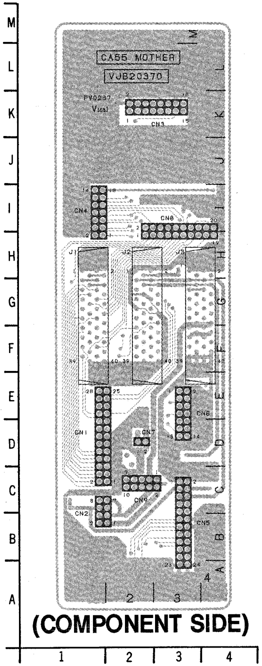
LAST NO.	(NOT USED)
R 87	R3, 15, 17, 18, 19, 20, 24, 25, 33, 34, 68
C 42	C10, 12, 13, 14, 17, 19, 31
L 2	
D 27	D5, 23
Q 13	Q8
T 1	
IC5	IC2
VR1	
P 4	
F 1	

REVERSE SIDE REG (C/F) SCHEMATIC DIAGRAM

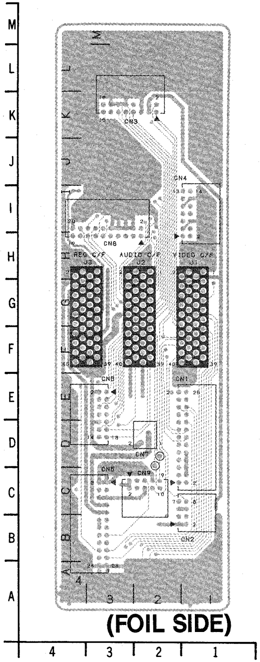
79P BOARD SCHEMATIC DIAGRAM


+48V
+12V
MIC-1 (H) (-60dB)
MIC-1 (C)
SHIELD
MIC-1 BIAS-H
MIC-2 BIAS-H
MIC-1 GAIN
MIC-2 GAIN
MIC-2 (H) (-60dB)
MIC-2 (C)
EL1
EL2
PHANTOM +48V
PHANTOM +12V
AB
OPEN
MIC-1 (H)
(-20dB)
MIC-1 (C)
MIC-2 (H)
(-20dB)
MIC-2 (C)
MIC-1
MIC-2
VSS0289 SW1
VSS0289 SW2
MIC VTR (H)
MIC VTR (C)
DM GAIN
INCOM GAIN
INCOM TALK
GND
INCOM RECEIVE
CM (-10dB)
DM (-55dB)
VSS0289 SW3
VSS0289 SW4
SIDE TONE
C+12V
LAST NO.
IC13
Q5
R87
VR7
C36
L1
SW4
EL2
IC1,2,5,6,9 uPC4570G
IC3,4,7,8,10 TL062CPS
IC11 TL061CPS
IC12 NJM431U
IC13 uPC4557C
Q1,2,3,4 2SK198-P
Q5 2SB710-R
VJP2045
VJP2741B008
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11

MOTHER P.C.BOARD (VEP20370A)

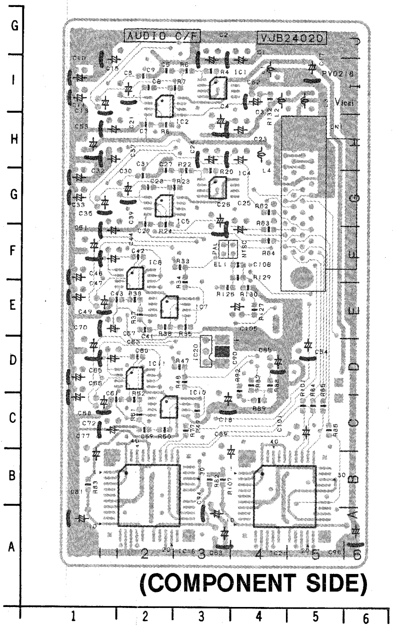

CA55 MOTHER
VJB20370
PV0237
Vical
CN3
CN4
CN8
J1
J2
J3
CN1
CN6
CN7
CN9
CN2
CN5
M
L
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4

(COMPONENT SIDE)

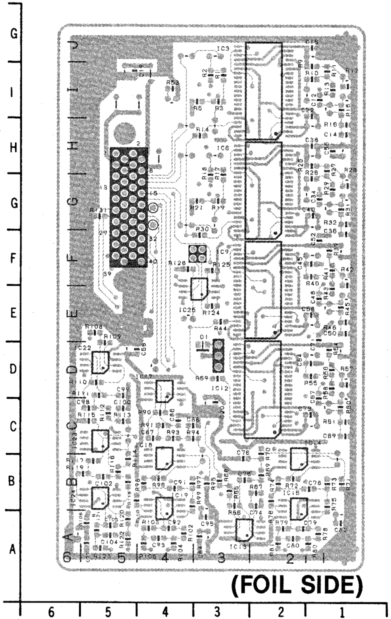

CN3
CN4
CN8
REG C/F
AUDIO C/F
VIDEO C/F
J3
J2
J1
CN6
CN1
CN7
CN5
CN9
CN2
M
L
K
J
I
H
G
F
E
D
C
B
A
4
3
2
1

(FOIL SIDE)

HEAD AUDIO(C/F) P.C.BOARD (VEP24020A)


AUDIO C/F
VJB24020
PV0218
Vical
IC1
IC2
IC4
IC5
IC6
IC7
IC8
IC10
IC11
IC20
CN1
L4
PAL
NTSC
EL1
G
I
H
F
E
D
C
B
A
1
2
3
4
5
6

(COMPONENT SIDE)

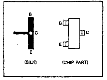

IC3
IC6
IC9
IC12
IC13
IC14
IC15
IC25
D1
G
I
H
F
E
D
C
B
A
6
5
4
3
2
1

(FOIL SIDE)

HOTHER
P.C.BOARD

COMPONET SIDE	
CONNECTOR	
CN1	D-1
CN2	B-1
CN3	K-3
CN4	I-1
CN5	C-3
CN6	E-3
CN7	D-2
CN8	I-3
CN9	C-2
J1	G-4
J2	G-2
J3	G-1

CHIP PART INFORMATION


B
C
E
(SILK)
B
C
E
(CHIP PART)

REVERSE SIDE 79P BOARD SCHEMATIC DIAGRAM

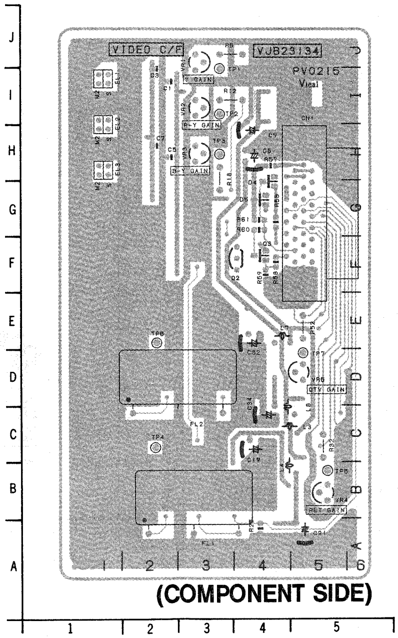
AUDIO C/F P.C. BOARD

COMPONENT SIDE		FOIL SIDE	
INTEGRATED CIRCUIT		INTEGRATED CIRCUIT	
IC1	I-4	IC3	I-2
IC2	I-2	IC6	G-2
IC4	G-3	IC9	F-2
IC5	G-2	IC12	D-2
IC7	E-2	IC13	A-3
IC8	F-2	IC14	B-2
IC10	C-2	IC15	B-2
IC11	D-2	IC17	D-4
IC16	A-2	IC18	C-4
IC20	D-3	IC19	B-4
IC21	A-4	IC22	D-5
		IC23	C-5
CONNECTOR		IC24	B-5
CN1	G-5	IC25	E-3

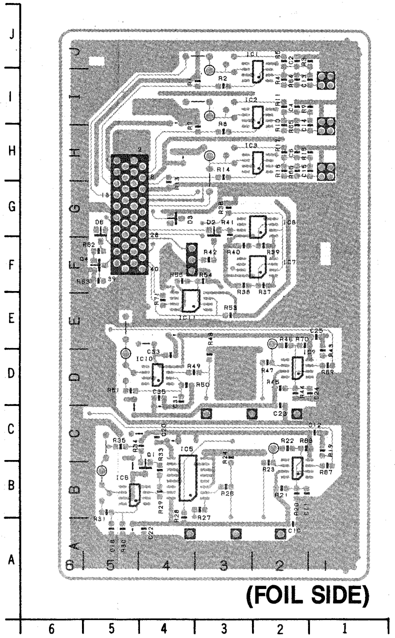
VIDEO C/F P.C. BOARD

COMPONENT SIDE		FOIL SIDE	
TRANSISTOR		TRANSISTOR	
Q2	F-4	Q1	B-4
Q3	F-4	Q4	F-5
TEST POINT		INTEGRATED CIRCUIT	
TP1	I-3	IC1	J-3
TP2	I-3	IC2	I-3
TP3	H-3	IC3	H-3
TP4	C-2	IC4	B-2
TP5	B-5	IC5	B-4
TP6	E-2	IC6	B-5
TP7	D-5	IC7	F-2
ADJUSTMENT		IC8	G-2
VR1	J-3	IC9	D-2
VR2	I-3	IC10	D-4
VR3	H-3	IC11	E-4
VR4	B-5		
VR5	D-5		
CONNECTOR			
CN1	G-5		

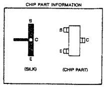
HEAD VIDEO(C/F) P.C.BOARD (VEP23134A)


VIDEO C/F
VJB23134
PV0215
Vical
Y GAIN
R-Y GAIN
B-Y GAIN
QTY GAIN
RET GAIN
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6

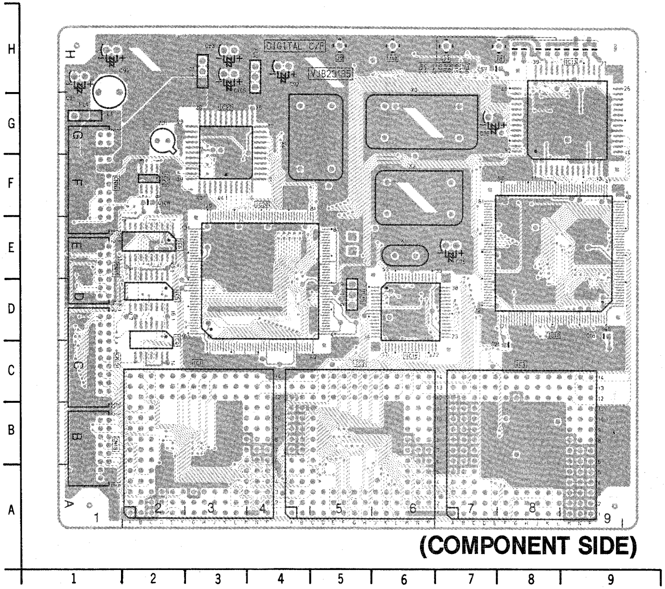
(COMPONENT SIDE)


J
I
H
G
F
E
D
C
B
A
6
5
4
3
2
1

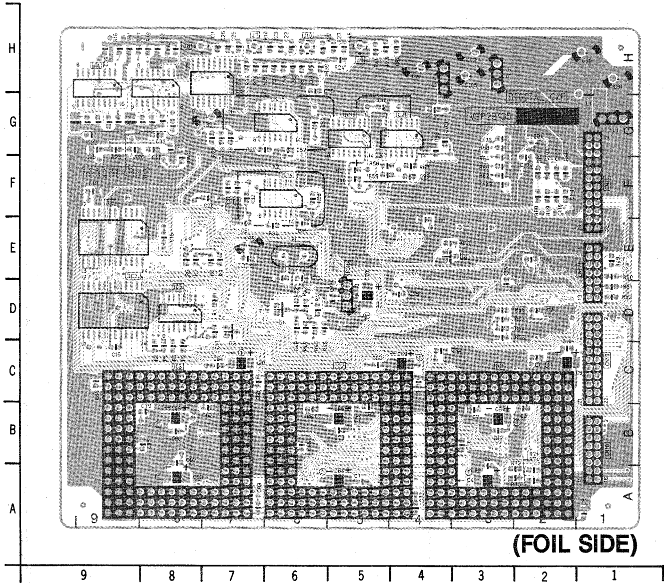
(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

HEAD DIGITAL(C/F) P.C.BOARD (VEP23135B) FOR NTSC MODEL (VEP23135A) FOR PAL MODEL


H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
DIGITAL C/F
VJB23135

(COMPONENT SIDE)

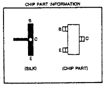

H
G
F
E
D
C
B
A
9
8
7
6
5
4
3
2
1
DIGITAL C/F
VEP23135

(FOIL SIDE)

DIGITAL C/F
P.C.BOARD

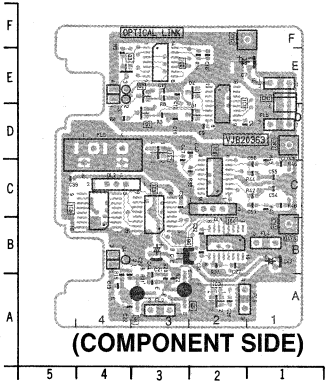
COMPONENT SIDE				FOIL SIDE	
INTEGRATED CIRCUIT		CONNECTOR		TRANSISTOR	
		CN16	F-1	Q1	E-4
IC1	B-3	CN17	E-1		
IC2	B-5	CN18	B-1	INTEGRATED CIRCUIT	
IC3	B-8	CN19	C-1		
IC4	D-2			IC7	D-9
IC5	D-2	J7	H-7	IC8	E-9
IC6	E-2	J8	H-7	IC9	D-8
IC10	E-8	J9	H-5	IC11	H-9
IC13	G-9	J10	H-6	IC12	H-8
IC18	D-6	IC14	F-6	IC14	F-6
IC19	D-5	IC15	G-8	IC15	G-8
IC20	E-4	IC16	G-5	IC16	G-5
IC22	G-3	IC17	H-7	IC17	H-7
IC23	F-2	IC21	G-4	IC21	G-4

CHIP PART INFORMATION

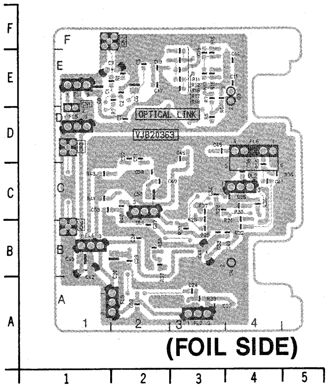

B
C
E
(SILK)
B
C
E
(CHIP PART)

REVERSE SIDE HEAD VIDEO(C/F) P.C.BOARD

OPT LINK P.C.BOARD (VEP20363A)


OPTICAL LINK
VJB20363
F
E
D
C
B
A
5
4
3
2
1

(COMPONENT SIDE)


OPTICAL LINK
VJB20363
F
E
D
C
B
A
1
2
3
4
5

(FOIL SIDE)

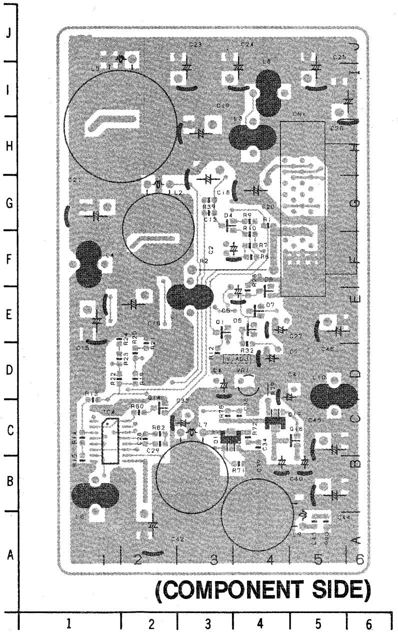
OPTICAL LINK P.C.BOARD

COMPONET SIDE	
TRANSISTOR	
Q1	D-3
Q2	E-3
Q3	E-4
Q4	A-3
Q5	A-2
Q6	B-3
INTEGRATED CIRCUIT	
IC1	D-2
IC2	E-3
IC3	A-2
IC4	B-2
IC5	C-3
IC6	C-4
IC7	D-3
IC8	C-2
CONNECTOR	
CN1	E-1
CN2	F-2
CN3	D-1
CN4	B-1

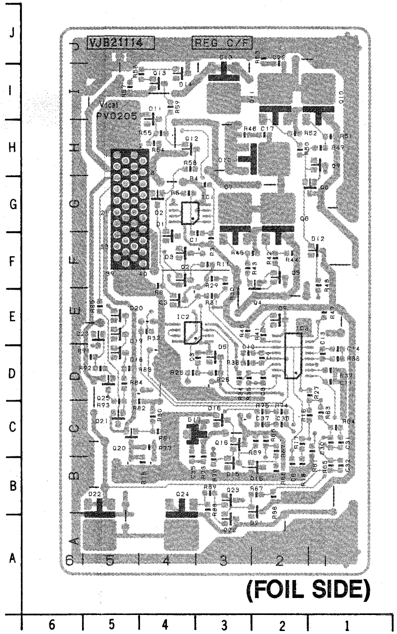
REG C/F P.C.BOARD

COMPONENT SIDE		FOIL SIDE	
TRANSISTOR		TRANSISTOR	
Q1	E-3	Q2	F-4
Q14	C-2	Q3	E-4
Q17	C-3	Q4	F-2
Q18	C-5	Q5	F-2
Q19	C-4	Q6	G-2
		Q7	G-3
INTEGRATED CIRCUIT		Q8	G-1
		Q9	H-1
IC4	C-1	Q10	I-1
		Q11	I-2
ADJUSTMENT		Q12	H-4
VR1	D-4	Q13	I-4
		Q15	B-2
CONNECTOR		Q16	C-3
CN1	G-5	Q20	C-5
		Q21	C-5
		Q22	A-3
		Q23	B-3
		Q24	B-4
		Q25	D-5
		INTEGRATED CIRCUIT	
		IC1	G-4
		IC2	E-4
		IC3	D-2

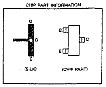
REG(C/F) P.C.BOARD (VEP21114A)


VJB21114
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6

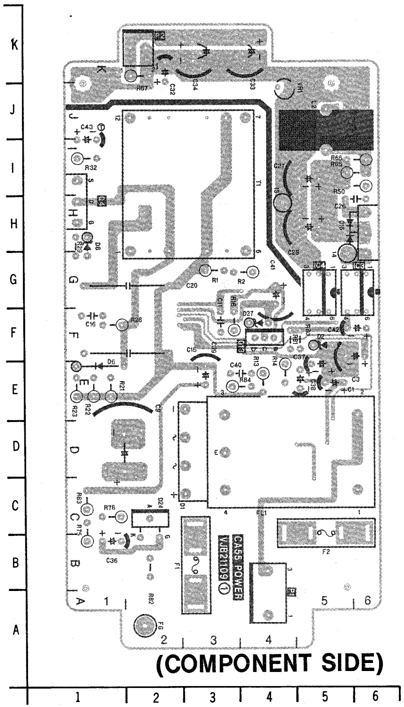
(COMPONENT SIDE)

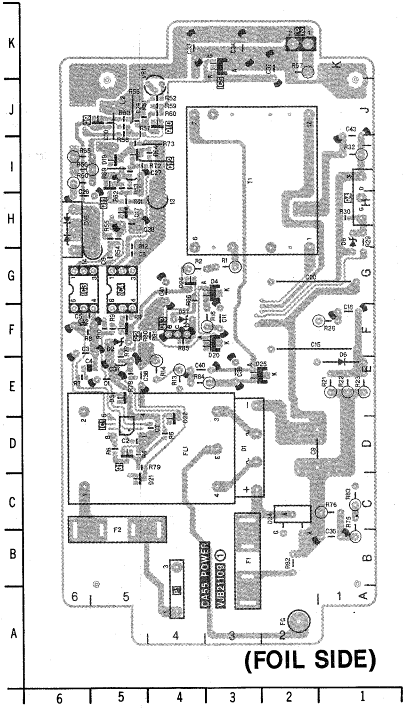

VJB21114
REG C/F
J
I
H
G
F
E
D
C
B
A
6
5
4
3
2
1

(FOIL SIDE)


CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

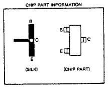
POWER P.C.BOARD (VEP21109A)


(COMPONENT SIDE)
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
P2
R67
C32
C34
C33
VR1
C43
R32
Q4
D8
R29
T1
C27
R65
R66
R50
C26
D16
C28
IC4
IC3
R1
R2
C41
C20
C16
R26
D27
C42
C15
C39
Q13
C40
R13
R14
C37
R84
C38
C3
C1
D6
R21
R23
R22
C9
D1
FL1
R83
R76
D24
R75
C36
F1
F2
R82
FG
P1
CA55 POWER
VJB21109 ①


(FOIL SIDE)
K
J
I
H
G
F
E
D
C
B
A
6
5
4
3
2
1
P2
C35
C34
IC5
C32
R57
VR1
R56
R52
R59
R60
R63
R53
Q10
R73
Q12
Q9
R64
R72
C27
R65
R66
R50
C26
Q11
D19
R62
R61
R51
D18
R55
R54
C28
R12
IC3
IC4
R2
R1
D4
D26
D21
R16
C11
C20
C16
R26
Q2
R85
D20
C15
D6
Q13
C40
R84
D25
R21
R22
R23
Q1
IC1
C2
R79
D21
D22
FL1
D1
C9
R83
R76
D24
R75
C36
F2
F1
R82
FG
P1
CA55 POWER
VJB21109 ①

POWER P.C.BOARD

COMPONENT SIDE		FOIL SIDE	
TRANSISTOR		TRANSISTOR	
Q4	H-1	Q1	D-5
Q13	F-4	Q2	F-5
		Q9	J-5
INTEGRATED CIRCUIT		Q10	J-4
		Q11	I-5
IC3	G-6	Q12	I-5
IC4	G-5		
		INTEGRATED CIRCUIT	
ADJUSTMENT			
VR1	J-4	IC1	D-5
		IC5	K-3
CONNECTOR			
P1	A-4		
P2	K-2		

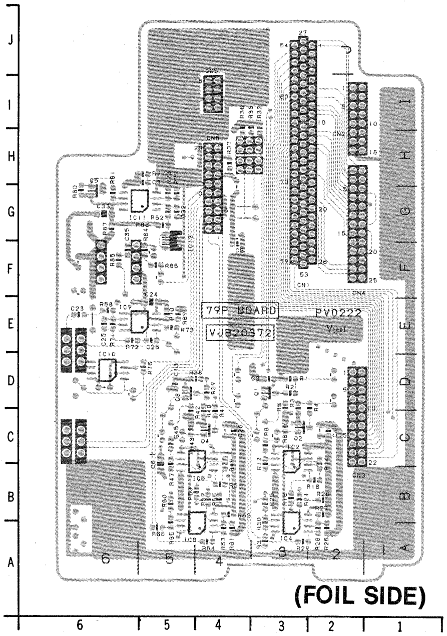

CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

REVERSE SIDE ORT LINK.REG(C/F)
P.C.BOARD

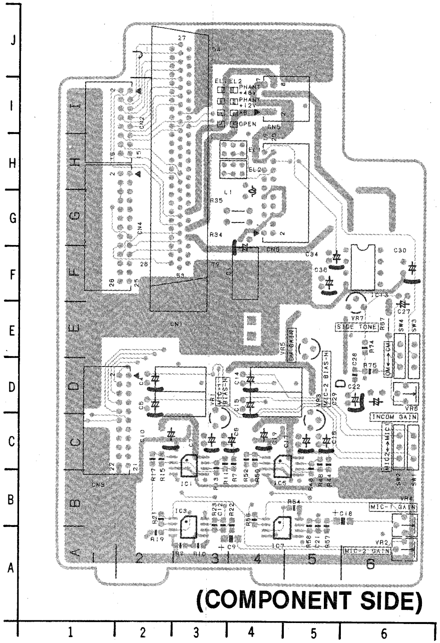
79P BOARD
P.C. BOARD

COMPONENT SIDE		FOIL SIDE	
INTEGRATED CIRCUIT		TRANSISTOR	
		Q1	D-3
IC1	C-3	Q2	C-3
IC3	B-3	Q3	D-5
IC5	C-4	Q4	C-4
IC7	B-4	Q5	G-6
IC13	F-6		
		INTEGRATED CIRCUIT	
ADJUSTMENT			
VR1	D-3	IC2	C-3
VR2	A-6	IC4	B-3
VR3	D-5	IC6	C-4
VR4	B-4	IC8	B-4
VR5	E-5	IC9	E-6
VR6	D-6	IC10	D-6
VR7	E-6	IC11	G-6
		IC12	G-5
CONNECTOR			
CN1	G-3		
CN2	I-1		
CN3	C-1		
CN4	G-1		
CN5	I-4		
CN6	G-4		

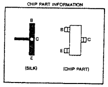
79P BOARD P.C.BOARD (VEP20370A)


J
I
H
G
F
E
D
C
B
A
6
5
4
3
2
1
79P BOARD
VJB20372
PV0222
Vical
CN1
CN2
CN3
CN4
CN5
CN6

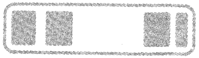
(FOIL SIDE)


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
SIDE TONE
INCOM GAIN
MIC-1 GAIN
MIC-2 GAIN
PHANT +48V
PHANT +12V
OPEN

(COMPONENT SIDE)

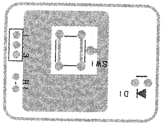

CHIP PART INFORMATION
B
C
E
(SILK)
(CHIP PART)

BRAKER P.C.BOARD (VEP20427A)

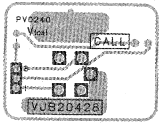


(FOIL SIDE)

CALL P.C.BOARD (VEP20428A)



(COMPONENT SIDE)


PV0240
Vical
CALL
VJB20428

(FOIL SIDE)

CONTENTS

EXPLODED VIEWS & PARTS LIST

PACKING PARTS-1
FRAME ASSEMBLY(BASE STATION UNIT) PARTS-2

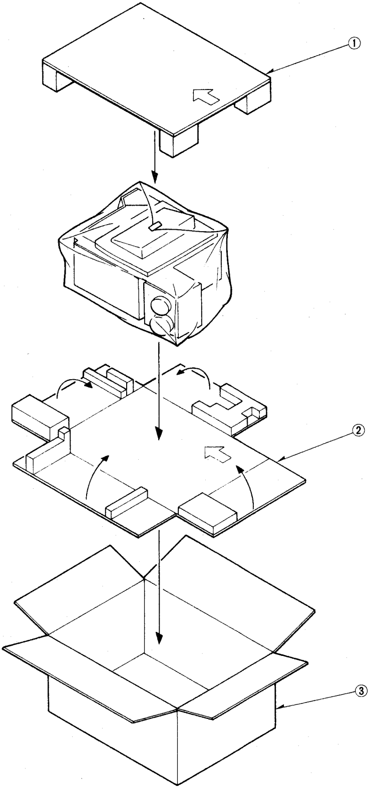
ELECTRICAL PARTS LIST(NTSC)

MOTHER P.C.BOARD(VEP20370A) PARTS-6
HEAD AUDIO(C/F) P.C.BOARD(VEP24020A) PARTS-6
HEAD VIDEO(C/F) P.C.BOARD(VEP23134A) PARTS-7
HEAD DIGITAL(C/F) P.C.BOARD(VEP23135B) PARTS-8
OPT LINK P.C.BOARD(VEP20363A) PARTS-9
REG(C/F) P.C.BOARD(VEP21114A) PARTS-10
POWER P.C.BOARD(VEP21109A) PARTS-12
79P P.C.BOARD(VEP20372A) PARTS-13
CALL P.C.BOARD(VEP20428A) PARTS-14

ELECTRICAL PARTS LIST(PAL)

MOTHER P.C.BOARD(VEP20370A) PARTS-16
HEAD AUDIO(C/F) P.C.BOARD(VEP24020A) PARTS-16
HEAD VIDEO(C/F) P.C.BOARD(VEP23134A) PARTS-17
HEAD DIGITAL(C/F) P.C.BOARD(VEP23135A) PARTS-18
OPT LINK P.C.BOARD(VEP20363A) PARTS-19
REC(C/F) P.C.BOARD(VEP21114A) PARTS-20
POWER P.C.BOARD(VEP21109A) PARTS-22
79P P.C.BOARD(VEP20372A) PARTS-23
CALL P.C.BOARD(VEP20428A) PARTS-24

EXPLODED VIEWS & PARTS LIST
PACKING

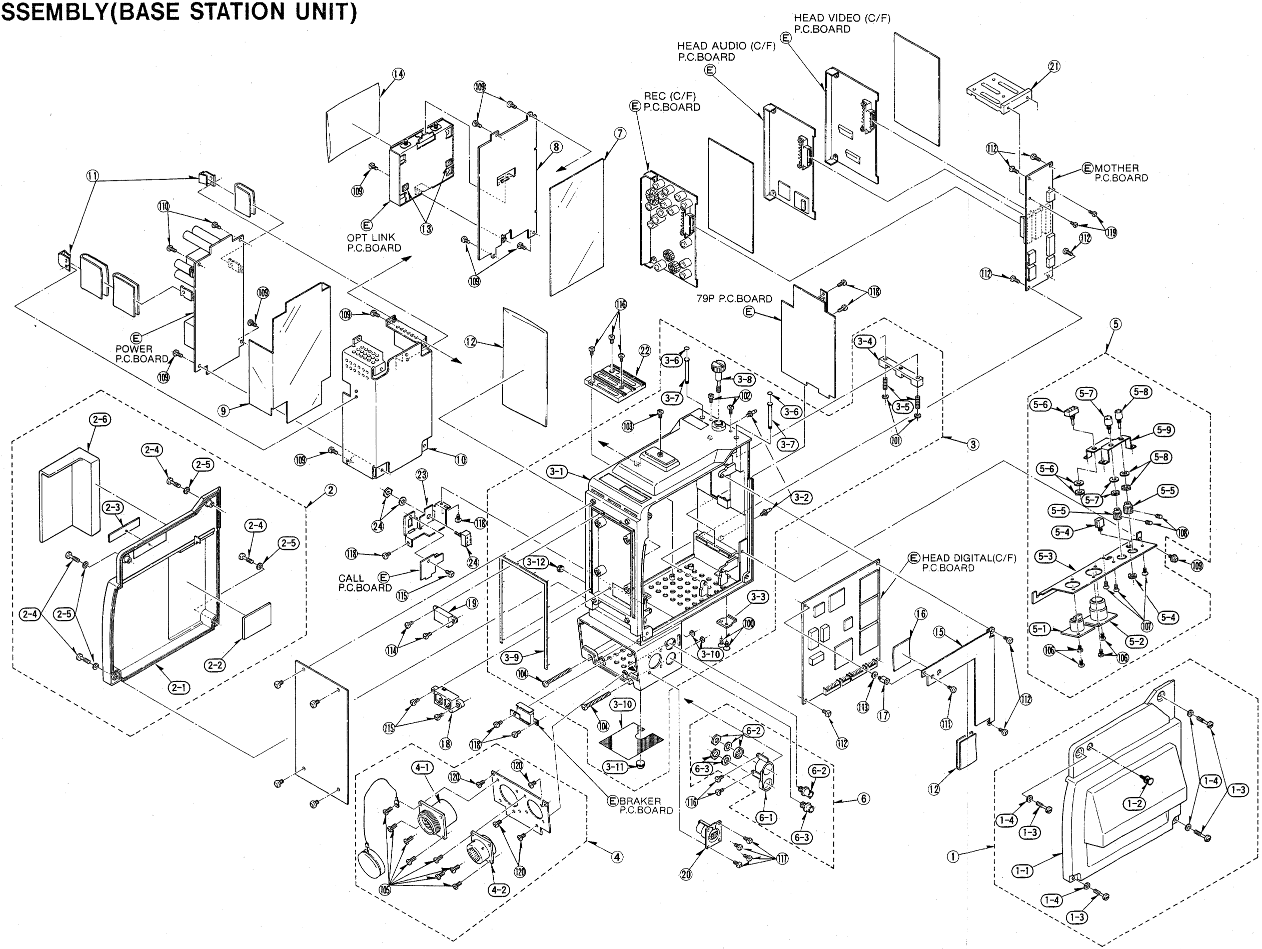


Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1		VPN3364	PAD (B)	1	
2		VPN3363	PAD (A)	1	
3		VPG6347	PACKING CASE	1	

FRAME ASSEMBLY(BASE STATION UNIT)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1		VYK4265	SIDE COVER (L) U	1	
1-1		VGM0883	SIDE PANEL (L)	1	
1-2		VMS4284	BELT HANGER PIN	1	
1-3		VHD0730	SCREW	4	
1-4		VMX2048	WASHER	4	
2		VYK4266	SIDE COVER (R) U	1	
2-1		VGM0884	SIDE PANEL (R)	1	
2-2		VMG0693	P.C.BOARD FIXING ANGLE	1	
2-3		VHD0730	SCREW	4	
2-4		VMX2048	WASHER	4	
2-5		VMT0439	PAD	1	
3		VYK4267	MAIN FRAME U	1	
3-1		VGM0882	MAIN FRAME	1	
3-2		VMS3187	GUIDE PIN (B)	2	
3-3		VMP2970	STOPPER (B)	1	
3-4		VMP2403	STOPPER (A)	1	
3-5		VMB1581	SPRING	2	
3-6		VGF0358	SHIELD	2	
3-7		VMS3186	GUIDE PIN (A)	2	
3-8		VXA3433	SCREW	1	
3-9		VMG0651	WATERPROOF RUBBER	1	
3-10		VGQ2798	NET	1	
3-11		VMG0643	GUM CAP	1	
3-12		VGU4893	RUBBER KNOB	1	
3-13		VMX0653	CUT WASHER	2	
4		VEJ1245	REAR JACK U	1	
4-1		VJS3314	CONNECTOR (6P)	1	
4-2		VJP1957	CONNECTOR (26P)	1	
5		VEJ1246	JACK U (A)	1	
5-1		VJP2717	DC INLET	1	
5-2		VJS3290	CONNECTOR (4P)	1	
5-3		VMP3633	JACK MOUNT ANGLE (A)	1	
5-4		VJJ0093	E.P JACK	1	
5-5		VXU0977	VT KNOB	2	
5-6		VST0060	TOGGLE SW	1	
5-7		VRV0118B102	ROTARY VR	1	
5-8		VRV0118B103	ROTARY VR	1	
5-9		VMP3636	VR MOUNT ANGLE	1	
6		VEJ1247	JACK U (B)	1	
6-1		VJF1002	JACK HOLDER	1	
6-2		VJS2061	BNC CONNECTOR	1	
6-3		VJS2756A010	CONNECTOR (10P)	1	
7		VMZ1961	SHIELD PLATE (B)	1	
8		VMP3640	POWER BOX COVER	1	
9		VMZ1960	SHIELD PLATE (A)	1	
10		VMP3639	POWER BOX	1	
11		VMC0865	CLIP	2	
12		VSC3774	LIQUID HEAT SINK (A)	2	
13		VMG0460	MOTOR FIXING RUBBER	2	
14		VSC3775	LIQUID HEAT SINK (B)	1	
15		VSC3775	P.C.BOARD HEAT SINK	1	
16		VMZ2055	HEAT SINK (B)	1	
17		VMS4921	POST (B)	1	
18		VEJ1213	BATTERY TERMINAL U	1	
19		VKF1774	BATTERY CABLE CAP	1	
20		VJS2614	XLR CONNECTOR	1	
21		VGQ2794	GUIDE RAIL (A)	1	
22		VGQ2818	GUIDE RAIL (B)	1	
23		VMP3635	POWER MOUNT ANGLE	1	
24		VST0067	POWER SW	1	
100		XSS3+8FCS	SCREW	2	
101		XUC25VM	SCREW	2	
102		XSB3+4FZS	SCREW	2	
103		XSB4+6FZS	SCREW	1	
104		XSN3+40FZS	SCREW	2	
105		XSN3+8FCS	SCREW	2	
106		XSN26+6FC	SCREW	8	
107		XSS26+6FZ	SCREW	4	
108		XXEV2W3FP	SCREW	3	
109		XYN3+C8	SCREW	2	
110		XYN3+E6S	SCREW	10	
111		XYN26+C4	SCREW	2	
112		XSB26+6FN	SCREW	1	
113		XWA26B	SCREW	7	
114		XSB26+6FZ	SCREW	1	
115		XSN3+6FZS	SCREW	2	
116		XSN26+6	SCREW	2	
117		XSN26+6FC	SCREW	5	
118		XYN26+C5	HEXAGON SCREW	2	
119		XYN3+6J	E-RING	6	
120		XSB3+6FZS	SPRING WASHER	2	

FRAME ASSEMBLY(BASE STATION UNIT)



Ⓔ HEAD VIDEO (C/F) P.C.BOARD
Ⓔ HEAD AUDIO (C/F) P.C.BOARD
Ⓔ REC (C/F) P.C.BOARD
Ⓔ MOTHER P.C.BOARD
Ⓔ OPT LINK P.C.BOARD
Ⓔ POWER P.C.BOARD
Ⓔ 79P P.C.BOARD
Ⓔ HEAD DIGITAL(C/F) P.C.BOARD
CALL Ⓔ P.C.BOARD
Ⓔ BRAKER P.C.BOARD
①
①-1
①-2
①-3
①-4
②
②-1
②-2
②-3
②-4
②-5
②-6
③
③-1
③-2
③-3
③-4
③-5
③-6
③-7
③-8
③-9
③-10
③-11
③-12
④
④-1
④-2
⑤
⑤-1
⑤-2
⑤-3
⑤-4
⑤-5
⑤-6
⑤-7
⑤-8
⑤-9
⑥
⑥-1
⑥-2
⑥-3
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
(100)
(101)
(102)
(103)
(104)
(105)
(106)
(107)
(108)
(109)
(110)
(111)
(112)
(113)
(114)
(115)
(116)
(117)
(118)
(119)
(120)

ELECTRICAL PARTS LIST (NTSC)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP20370A	P.C.BOARD W/COMPONENT	1	
			MOTHER		
		VEP24020A	P.C.BOARD W/COMPONENT	1	
			HEAD AUDIO (C/F)		
		VEP23134A	P.C.BOARD W/COMPONENT	1	
			HEAD VIDEO (C/F)		
		VEP23135B	P.C.BOARD W/COMPONENT	1	
			HEAD DIGITAL (C/F)		
		VEP20363A	P.C.BOARD W/COMPONENT	1	
			OPT LINK		
		VEP21114A	P.C.BOARD W/COMPONENT	1	
			REG (C/F)		
		VEP21109A	P.C.BOARD W/COMPONENT	1	
			POWER		
		VEP20372A	P.C.BOARD W/COMPONENT	1	
			79P		
		VEP20428A	P.C.BOARD W/COMPONENT	1	
			CALL		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20370A	P.C.BOARD W/COMPONENT		
			MOTHER		
CN0001		VJP2741B026	CONNECTOR(MALE)	1	
CN0002		VJP2741B008	CONNECTOR(MALE)	1	
CN0003		VJP2741B016	CONNECTOR(MALE)	1	
CN0004		VJP2741B014	CONNECTOR(MALE)	1	
CN0005		VJP2741B024	CONNECTOR(MALE)	1	
CN0006		VJP2741B014	CONNECTOR(MALE)	1	
CN0007		VJP2739B002	CONNECTOR(MALE)	1	
CN0008		VJP2741B020	CONNECTOR(MALE)	1	
CN0009		VJP2741B010	CONNECTOR(MALE)	1	
J0001-03		VJS2744A040	CONNECTOR (FEMALE)	3	
	■	VEP24020A	P.C.BOARD W/COMPONENT		
			HEAD AUDIO (C/F)		
			CAPACITORS		
C4001-04		ECA0JKF101	E.CAPACITOR 6.3V 100U	4	
C4005		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4006		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4007		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4008		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4009		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4010,11		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4012		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4013		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4014		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4015		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4016		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4017,18		ECA1CKF560	E.CAPACITOR 16V 56U	2	
C4019,20		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C4021		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4022		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4023-26		ECA0JKF101	E.CAPACITOR 6.3V 100U	4	
C4027		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4028		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4029		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4030		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4031		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4032,33		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4034		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4035		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4036		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4037		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4038		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4039		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4040		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4041		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4042		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4043		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4044		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4045		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4046,47		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4048		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4049		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4050		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4051		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4052		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4053,54		ECA0JKF121	E.CAPACITOR 6.3V 120U	2	
C4055,56		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C4057		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4058		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4059		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4060		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4061		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4062		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C4063		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4064		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4065,66		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4067		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4068		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4069		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4070		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4071		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4072		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4073		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4074		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4075		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4076		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4077		ECEA1CBK220	E.CAPACITOR 16V 22U	1	
C4078		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4079		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C4080		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4081		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4082		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4083		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4084		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4085		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C4086		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4087		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4088		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4089		ECEA1CBK220	E.CAPACITOR 16V 22U	1	
C4090		ECST1AC106	T.CAPACITOR 10V 10U	1	
C4091		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4092		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C4093		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4094		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4095		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4096		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4097		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4098		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4099		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4100		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4101		ECEA1CBK220	E.CAPACITOR 16V 22U	1	
C4102		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4103		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C4104		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4105		ECEA1CBK100	E.CAPACITOR 16V 10U	1	
CN4001		VJP2744B040	CONNECTOR (MALE)	1	
D4001		MA151K	DIODE	1	
EL4001		VJP1940	CONNECTOR SWITCH	1	
IC4001,02		UPC4570G	IC	2	
IC4003		MN6460S	IC	1	
IC4004,05		UPC4570G	IC	2	
IC4006		MN6460S	IC	1	
IC4007,08		UPC4570G	IC	2	
IC4009		MN6460S	IC	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC4010,11		UPC4570G	IC	2	
IC4012		MN6460S	IC	1	
IC4013-15		UPC4570G	IC	3	
IC4016		MN6470S	IC	1	
IC4017-19		UPC4570G	IC	3	
IC4020		MN1280P	IC	1	
IC4021		MN6470S	IC	1	
IC4022-25		UPC4570G	IC	4	
L4001-04		VLQEL05F470J	COIL 47UH	4	
			RESISTORS		
R4001		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R4002-05		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	4	
R4006-08		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4009		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4010		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4011,12		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4013		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4014		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4015		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4016		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4017		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R4018-21		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	4	
R4022-24		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4025		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4026		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4027,28		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4029		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4030		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4031		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4034		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R4035		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4036-38		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4039		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4040		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4041,42		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4043		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4044		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4045		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4046,47		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4048		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R4049		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4050-52		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4053,54		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4055		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4056,57		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4058		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4059		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4060		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4061		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4062-64		VRE0034E561	M.RESISTOR CH 1/10W 560	3	
R4065,66		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4067		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R4068		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R4069,70		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	2	
R4071,72		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4073,74		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	
R4075,76		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R4077		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4078,79		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R4080,81		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4082,83		VRE0034E331	M.RESISTOR CH 1/10W 330	2	
R4084-86		VRE0034E561	M.RESISTOR CH 1/10W 560	3	
R4087-90		VRE0034E103	M.RESISTOR CH 1/10W 10K	4	
R4091		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R4092		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R4093,94		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	2	
R4095,96		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4097,98		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4099,00		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R4101		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4102,03		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R4104,05		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4106,07		VRE0034E331	M.RESISTOR CH 1/10W 330	2	
R4108		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R4109,10		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4111-13		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4114,15		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4116,17		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	
R4118,19		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R4120,21		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R4122-26		VRE0034E103	M.RESISTOR CH 1/10W 10K	5	
R4127		VRE0034E133	M.RESISTOR CH 1/10W 13K	1	
R4128		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R4129		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R4130		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R4131,32		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	1	
		VMP3468	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP23134A	P.C.BOARD W/COMPONENT		
			HEAD VIDEO (C/F)		
			CAPACITORS		
C3001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3002		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3003		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3004		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3005		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3006		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3007		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3008,09		ECA1AKF820	E.CAPACITOR 10V 82U	2	
C3010		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3012		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3013		ECUM1H020DCN	C.CAPACITOR CH 50V 2P	1	
C3014,15		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	2	
C3019		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3020		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3021		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3022,23		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3025		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3032		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3033		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3034		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3035		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
CN3001		VJP2744B040	CONNECTOR (MALE)	1	
D3002		MA151WK	DIODE	1	
D3003		MA3056	DIODE	1	
D3004		MA151K	DIODE	1	
D3005		MA3091	DIODE	1	
D3006		MA151K	DIODE	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
EL3001-03		VJP1940	CONNECTOR SWITCH	3	
FL3001,02		VLF0754	FILTER	2	
IC3001-04		AD847JR	IC	4	
IC3005		MC14053BF	IC	1	(R)
IC3006		AD847JR	IC	1	
IC3007,08		UPC271G	IC	2	
IC3009,10		AD847JR	IC	2	
IC3011		NJM360M	IC	1	
L3003,04		VLQEL05F470J	COIL 47UH	2	
L3007,08		VLQEL05F470J	COIL 47UH	2	
Q3001		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3002		2SC2720	TRANSISTOR	1	
Q3003,04		2SC2295	TRANSISTOR CHIP	2	(B,C)
			RESISTORS		
R3001		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3002		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3003		VRE0034E511	RESISTOR	1	
R3004		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3005		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3006		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3007		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3008		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3009		VRE0034E511	RESISTOR	1	
R3010		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R3011		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3012		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3013		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3014		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3015		VRE0034E511	RESISTOR	1	
R3016		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R3017		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3018		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3019		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3020		VRE0034E511	RESISTOR	1	
R3022		VRE0034E511	RESISTOR	1	
R3023,24		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3025		VRE0034E750	M.RESISTOR CH 1/10W 75	1	
R3026,27		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3028		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3029		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3030		VRE0034E511	RESISTOR	1	
R3031		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3032		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3033		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3034		VRE0034E511	RESISTOR	1	
R3035		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3036		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3037		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3038		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3039		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	1	
R3040		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3041-43		VRE0034E103	M.RESISTOR CH 1/10W 10K	3	
R3044		VRE0034E511	RESISTOR	1	
R3046		VRE0034E511	RESISTOR	1	
R3047,48		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3049		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3050		VRE0034E511	RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3051		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3052		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3053		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3054,55		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3056		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3057		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3058,59		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3060,61		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R3062,63		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3065,66		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	2	
R3067		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3069		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3071		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
TP3001-07		VJR0460	TEST POINT	7	
VR3001-05		VRV0062B101	V.RESISTOR 100	5	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	3	
		VMP3467	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FB	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP23135B	P.C.BOARD W/COMPONENT		
			HEAD DIGITAL (C/F)		
			CAPACITORS		
C3001-03		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3004		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3005		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3006		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3007,08		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3009		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3010-22		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	13	
C3023		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C3024		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3025		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3026		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C3027		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3028,29		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3030		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3031		VCK0136K155	C.CAPACITOR V 0.15V	1	
C3032,33		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3034		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3035		VCK0136K155	C.CAPACITOR V 0.15V	1	
C3036		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3037-54		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	18	
C3055		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3056-59		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C3060		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3061-63		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3064		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3065		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3066		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3067,68		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3069		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3070-72		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3073,74		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	2	
C3075		ECA1AKF220	E.CAPACITOR 10V 22U	1	
C3076,77		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3078		ECST1AC226	T.CAPACITOR V	1	
C3079,80		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3081		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3082		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3083		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3084,85		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3086		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3087-89		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3090-93		ECA0JKF121	E.CAPACITOR 6.3V 120U	4	
C3094-02		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	9	
C3103		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3104		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3105		ECA1AKF220	E.CAPACITOR 10V 22U	1	
C3106		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3107		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3108		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3109		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3110		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C3111		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
CN3016		VJP2741B024	CONNECTOR (MALE)	1	
CN3017		VJP2741B014	CONNECTOR (MALE)	1	
CN3018		VJP2741B016	CONNECTOR (MALE)	1	
CN3019		VJP2741B022	CONNECTOR (MALE)	1	
D3001,02		MA152K	DIODE	2	
FL3001-03		VLF0981	FILTER	3	
IC3001-03		VC5498	IC	3	
IC3004		74AC74SJ	IC	1	
IC3005		MC74HC161F	IC	1	
IC3006		74AC245SJ	IC	1	
IC3007,08		UPD42102G-3	IC	2	
IC3009		74AC74SJ	IC	1	
IC3010		L7A0880	IC	1	
IC3011,12		UUA0018	IC	2	
IC3013		VSC3KI-122A	IC	1	
IC3014,15		MC4044M	IC	2	
IC3016		74AC00SJ	IC	1	
IC3017		MB811AZF	IC	1	
IC3018		HD6475208F	IC	1	
IC3019		MN1280P	IC	1	
IC3020		L7A0881	IC	1	
IC3021		MC4044M	IC	1	
IC3022		ADV7122	IC	1	
IC3023		M5220FP	IC	1	
J3007-10		VJS3303	CONNECTOR (FEMALE)	4	
L3001		VLQ0409K470	COIL 47UH	1	
Q3001		2SC3734B24	TRANSISTOR	1	
			RESISTORS		
R3001		VRE0034E101	M.RESISTOR CH 1/10W 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3002		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3003,04		VRE0034E223	M.RESISTOR CH 1/10W 22K	2	
R3005,06		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3009		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3010,11		VRE0034E510	M.RESISTOR CH 1/10W 51	2	
R3012,13		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	
R3014-21		VRE0034E510	M.RESISTOR CH 1/10W 51	8	
R3022		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R3023		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3024		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R3025		VRE0034E511	RESISTOR	1	
R3026		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3027		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3028		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3029		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3030		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3031		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R3032		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3033		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3034		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3035		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R3036		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3037		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R3038,39		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3040		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3041		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R3042-44		VRE0034E223	M.RESISTOR CH 1/10W 22K	3	
R3045-53		VRE0034E101	M.RESISTOR CH 1/10W 100	9	
R3056		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3057		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3058		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3059		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R3060		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3061		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3062		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3063-65		VRE0034E750	M.RESISTOR CH 1/10W 75	3	
R3066		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R3067-69		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
X3001		VSX0341	CRYSTAL OSCILLATOR	1	
X3002		VSX0527	CRYSTAL OSCILLATOR	1	
X3003		VSX0529	CRYSTAL OSCILLATOR	1	
X3004		VSX0527	CRYSTAL OSCILLATOR	1	
ZD3001		AD589JH	IC	1	
	■	VEP20363A	P.C.BOARD W/COMPONENT		
			OPT LINK		
			CAPACITORS		
C0001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0002		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C0003		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0004		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C0005		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0006		VCK0136K155	C.CAPACITOR V 0.15V	1	
C0007		ECEA1AKG680	E.CAPACITOR 10V 68U	1	
C0008		VCK0136K155	C.CAPACITOR V 0.15V	1	
C0009		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C0010-12		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C0013		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C0014-24		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	11	
C0026		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0027		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C0028		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0029		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0030		VCK0136K155	C.CAPACITOR V 0.15V	1	
C0031,32		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C0033-40		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	8	
C0041		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0042		ECEA1AKG680	E.CAPACITOR 10V 68U	1	
C0043		VCK0136K155	C.CAPACITOR V 0.15V	1	
C0044		ECEA0JKG101	E.CAPACITOR 6.3V 100U	1	
C0045		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0046		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0047		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0048		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C0049		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0050		VCK0136K155	C.CAPACITOR V 0.15V	1	
C0051,52		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C0053-59		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	7	
CN0001		VJP2739A002	CONNECTOR (MALE)	1	
CN0002-04		VJS3307	CONNECTOR (FEMALE)	3	
D0001,02		MA157A	DIODE	2	
D0003		FLD130C2PM	DIODE	1	
D0004		FID13Z81PZ	DIODE	1	
DL0001		FDC1605	DELAY	1	
DL0002		FDC1505	DELAY	1	
FL0001-05		VLF0981	FILTER	5	
FL0006		WF282B	FILTER	1	
IC0001		UUA0018A	IC	1	
IC0002		AN1324NS	IC	1	
IC0003		UPC1675G	IC	1	
IC0004		UUA0018A	IC	1	
IC0005,06		MB812AZF	IC	2	
IC0007		UPC1675G	IC	1	
IC0008		UUA0018A	IC	1	
Q0001-03		2SC2845	TRANSISTOR	3	
Q0004,05		2SC3358	TRANSISTOR	2	
Q0006		2SB956	TRANSISTOR	1	(S)
			RESISTORS		
R0001		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0002		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0003		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R0004		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R0005		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0006		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R0007		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0008		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R0009		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0010		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R0011		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0012		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R0013		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0014,15		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0016		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0017,18		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R0019,20		VRE0034E331	M.RESISTOR CH 1/10W 330	2	
R0021		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0022		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R0023		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R0024		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0025-32		VRE0034E510	M.RESISTOR CH 1/10W 51	8	
R0034		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0035		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0036		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0037		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R0038		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R0039		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0040		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0041-44		VRE0034E391	M.RESISTOR CH 1/10W 390	4	
R0045		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0046		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0047		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0048		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
			MISCELLANEOUS		
		VJF1007	HOLDER	2	
		VSC3546	SHIELD CASE	1	
		VSC3547	SHIELD CASE	1	
	■	VEP21114A	P.C.BOARD W/COMPONENT		
			REG (C/F)		
			CAPACITORS		
C1001		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C1002		ECEA1VGE330	E.CAPACITOR 35V 33U	1	
C1003		ECUM1E1042FN	C.CAPACITOR CH 25V 0.1U	1	
C1004		ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C1005		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1007		ECEA0JGE331	E.CAPACITOR 6.3V 330U	1	
C1008		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C1009		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1010		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1011		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C1013		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1014		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1015		ECA1VFQ151	E.CAPACITOR 35V 150U	1	
C1016		ECA1VFQ331	E.CAPACITOR 35V 330U	1	
C1017		ECUM1H152KBN	C.CAPACITOR CH 50V 1500P	1	
C1018,19		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1020		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1021		ECA1VFQ331	E.CAPACITOR 35V 330U	1	
C1022		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1023,24		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1025,26		ECA1AFQ471	E.CAPACITOR 10V 470U	2	
C1027		ECEA0JGE331	E.CAPACITOR 6.3V 330U	1	
C1028		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C1029		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1030		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C1031		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1033		ECA1VKF120	E.CAPACITOR 35V 12U	1	
C1039-41		ECEA1JFE180	E.CAPACITOR 63V 18U	3	
C1042		ECA1VFQ331	E.CAPACITOR 35V 330U	1	
C1043		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1044,45		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1046		ECA1AFQ471	E.CAPACITOR 10V 470U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
CN1001		VJP2744B040	CONNECTOR (MALE)	1	
D1001		MA151K	DIODE	1	
D1002		MA151WK	DIODE	1	
D1003		MA151K	DIODE	1	
D1004		MA151WK	DIODE	1	
D1005-08		MA151K	DIODE	4	
D1009		MA3180	DIODE	1	
D1010		EA60QC04F	DIODE	1	
D1011		MA3056-L	DIODE	1	
D1012		MA3180	DIODE	1	
D1013		EA60QC04F	DIODE	1	
D1014		MA3056-L	DIODE	1	
D1015		MA151K	DIODE	1	
D1016		MA3180	DIODE	1	
D1017		E10QS10	DIODE	1	
D1018,19		MA3220M	DIODE	2	
D1020		MA3120	DIODE	1	
D1021		MA3180	DIODE	1	
D1022		EA60QC04F	DIODE	1	
D1023		MA3056-L	DIODE	1	
IC1001		TL062CPS	IC	1	
IC1002		NJM2904M	IC	1	
IC1003,04		TL1451CNS	IC	2	
L1001		VLQ0297	COIL	1	
L1002		VLQ0400	COIL	1	
L1003,04		VLQ0297	COIL	2	
L1005		VLQ0559	COIL	1	
L1006		VLQ0297	COIL	1	
L1007		VLQ0400	COIL	1	
L1008		VLQ0297	COIL	1	
L1009		VLQ0400	COIL	1	
L1010		VLQ0297	COIL	1	
Q1001,02		2SD601A	TRANSISTOR CHIP	2	(R)
Q1003		UN2215	TRANSISTOR-RESISTOR	1	
Q1004		2SD601A	TRANSISTOR CHIP	1	(R)
Q1005		2SB709A	TRANSISTOR	1	(R)
Q1006,07		2SJ245S-R	TRANSISTOR	2	
Q1008		2SD601A	TRANSISTOR CHIP	1	(R)
Q1009		2SB709A	TRANSISTOR	1	(R)
Q1010,11		2SJ245S-R	TRANSISTOR	2	
Q1012		2SB709A	TRANSISTOR	1	(R)
Q1013-16		2SD601A	TRANSISTOR CHIP	4	(R)
Q1017		IRFS120	TRANSISTOR	1	
Q1018		2SD814	TRANSISTOR	1	(R)
Q1019		2SD968	TRANSISTOR	1	(R)
Q1020		2SD814	TRANSISTOR	1	(R)
Q1021		2SB792	TRANSISTOR	1	(R)
Q1022		2SD601A	TRANSISTOR CHIP	1	(R)
Q1023		2SB709A	TRANSISTOR	1	(R)
Q1024		2SJ245S-R	TRANSISTOR	1	
Q1025		2SD601A	TRANSISTOR CHIP	1	(R)
			RESISTORS		
R1001		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R1002		ERW2PKR10	W.RESISTOR 2W 0.1	1	
R1003		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R1004		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1005,06		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	2	
R1007,08		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1009,10		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R1011		VRE0034E270	M.RESISTOR CH 1/10W 75	1	
R1012		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R1013		VRE0034E753	M.RESISTOR CH 1/10W 75K	1	
R1014		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R1015		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1016		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1017		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1018		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R1019		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1020		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1021		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1022		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1023		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1024		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R1025		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1026		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R1027		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R1028		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1029		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1030		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
R1031		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R1034		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1035		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1036		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1037		VRE0034E113	M.RESISTOR CH 1/10W 11K	1	
R1038		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1039		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R1040		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1041		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R1042,43		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1044,45		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	2	
R1046,47		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R1048		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R1049,50		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1051,52		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	2	
R1053		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R1054		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1055		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R1056		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R1057		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1058,59		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R1060		VRE0034E270	M.RESISTOR CH 1/10W 75	1	
R1061		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R1062		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R1063		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R1064		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1065		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1066		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1067		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1068		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1069		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R1070		VRE0034E511	RESISTOR	1	
R1071		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R1074-76		VRE0034E333	M.RESISTOR CH 1/10W 33K	3	
R1077		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R1080		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1081		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R1082		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R1083		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1084,85		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R1086		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1087		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R1088		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R1089		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R1090		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R1091		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1092,93		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
VR1001		VRV0062B502	V.RESISTOR 5K	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VMP3613	P.C.B. HOLDER ANGLE	1	
		VMS4911	PIN	2	
		VSC3606	SHIELD CASE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FC	SCREW	6	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP21109A	P.C.BOARD W/COMPONENT		
			POWER		
			CAPACITORS		
C1001		ECEA1HGE010	E.CAPACITOR 50V 1U	1	
C1002		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1003		ECEA1VGE331	E.CAPACITOR 35V 330U	1	
C1004		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	1	
C1005		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C1006,07		ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	2	
C1009		ECOS2GX560CA	E.CAPACITOR 400V 56U	1	
C1015		ECWH10H183JR	C.CAPACITOR 500V	1	
C1020		ECWF4274JZ	C.CAPACITOR V	1	
C1027,28		ECA1EFZ681	E.CAPACITOR 25V 680U	2	
C1029		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1032		ECA0JKF470	E.CAPACITOR 6.3V 47U	1	
C1033,34		ECA1EFZ681	E.CAPACITOR 25V 680U	2	
C1036		ECEA1AGE471	E.CAPACITOR 10V 470U	1	
C1037,38		ECEA1HGE010	E.CAPACITOR 50V 1U	2	
C1039		ECA1VFZ820	E.CAPACITOR 35V 82U	1	
C1041		EC2A2AFE101	E.CAPACITOR 100V 100U	1	
C1042		ECA1VKF4R7	E.CAPACITOR 35V 4.7U	1	
C1043		ECSF1EE1R5	T.CAPACITOR 25V 1.5P	1	
D1001		GBU8K	DIODE	1	
D1002		MA4270	DIODE	1	
D1003		MA151K	DIODE	1	
D1004		E11FS2	DIODE	1	
D1006		15DF8	DIODE	1	
D1008		MA4270	DIODE	1	
D1016		C30P10Q	DIODE	1	
D1017		MA3140	DIODE	1	
D1019		MA151K	DIODE	1	
D1020		E11FS2	DIODE	1	
D1021,22		MA151K	DIODE	2	
D1024		8P4SMA	DIODE	1	
D1025		E11FS2	DIODE	1	
D1026		MA151K	DIODE	1	
D1027		MA4270	DIODE	1	
FL1001		VLF0946	FILTER	1	
IC1001		FA5304S	IC	1	
IC1003,04		PC113A	IC	2	
IC1005		NJM431U	IC	1	
L1002		VLQ0559	COIL	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P1001		VJP2073	CONNECTOR (MALE)	1	
P1002		VJP2824A002	CONNECTOR (MALE)	1	
Q1001,02		2SD601A	TRANSISTOR	2	(R)
Q1004		2SK1082	TRANSISTOR	1	
Q1009,10		2SD601A	TRANSISTOR	2	(R)
Q1011,12		2SB709A	TRANSISTOR	2	(R)
Q1013		2SC3568	TRANSISTOR	1	
			RESISTORS		
R1001,02		ERG2SJ223	M.RESISTOR 2W 22K	2	
R1004		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1006		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R1007		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R1009		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R1010		VRE0034E330	M.RESISTOR CH 1/10W 33	1	
R1011		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R1013,14		ERG2SJ473	M.RESISTOR 2W 47K	2	
R1021-23		ERG2SJ104	M.RESISTOR 2W 100K	3	
R1029		ERDS2TJ220	C.RESISTOR 1/4W 22	1	
R1030		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1032		ERW2PKR10	W.RESISTOR 2W 0.1	1	
R1050		ERG2SJ2R4	M.RESISTOR 2W 2.4	1	
R1051		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R1052		VRE0034E511	RESISTOR	1	
R1053		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R1054		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1055		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1056,57		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R1058		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R1059		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R1060		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R1061		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R1062		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R1063		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1064		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R1065,66		ERW2PKR10	W.RESISTOR 2W 0.1	2	
R1067		ERG12SJ331	M.RESISTOR 1/2W 330	1	
R1069		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R1072,73		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	2	
R1075		ERG2SJ221	M.RESISTOR 2W 220	1	
R1076		ERG2SJ102	M.RESISTOR 2W 1K	1	
R1079		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1080,81		ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R1082		ERF5TJ151	W.RESISTOR 5W 150	1	
R1083		ERG2SJ221	M.RESISTOR 2W 220	1	
R1085		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1086		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
T1001		VLT0670	TRANSFORMER	1	
VR1001		VRV0069B101	V.RESISTOR W 100	1	
			MISCELLANEOUS		
		VJF0190	HOLDER	4	
		VJR0714	PIN	1	
		VMZ0429	BARRIER	2	
		VMZ1305	BARRIER	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20372A	P.C.BOARD W/COMPONENT		
			79P		
			CAPACITORS		
C0001		ECEA1HGE220	E.CAPACITOR 50V 22U	1	
C0002		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C0003		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0004,05		ECEA1HGE220	E.CAPACITOR 50V 22U	2	
C0006,07		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C0008		ECST1AY225	T.CAPACITOR 10V 2.2U	1	
C0009		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0010		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0011		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0012		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C0013		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0014,15		ECEA1HGE220	E.CAPACITOR 50V 22U	2	
C0016,17		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C0018		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0019		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0020		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0021		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C0022		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0023		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0024		ECST1AY225	T.CAPACITOR 10V 2.2U	1	
C0025,26		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C0027		ECEA1CBK100	E.CAPACITOR 16V 10U	1	
C0028		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C0029		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C0030		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0031,32		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0033		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	1	
C0034		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C0035		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C0036		ECA1CKF150	E.CAPACITOR 16V 15U	1	
CN0001		VJS1893	CONNECTOR (FEMALE)	1	
CN0002		VJP2741B016	CONNECTOR (MALE)	1	
CN0003		VJP2741B022	CONNECTOR (MALE)	1	
CN0004		VJP2741B026	CONNECTOR (MALE)	1	
CN0005		VJP2741B008	CONNECTOR (MALE)	1	
CN0006		VJP2741B020	CONNECTOR (MALE)	1	
EL0001,02		VJP2045	CONNECTOR (MALE)	2	
IC0001,02		UPC4570G	IC	2	
IC0003,04		TL062CPS	IC	2	
IC0005,06		UPC4570G	IC	2	
IC0007,08		TL062CPS	IC	2	
IC0009		UPC4570G	IC	1	
IC0010		TL062CPS	IC	1	
IC0011		TL061CPS	IC	1	
IC0012		NJM431U	IC	1	
IC0013		UPC4557C	IC	1	
L0001		VLQEL05F470J	COIL 47UH	1	
Q0001-04		2SK198	TRANSISTOR	4	(P)
Q0005		2SB710	TRANSISTOR	1	(Q,R)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R0001		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0002		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0003		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0004		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0005		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R0006		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R0007,08		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0009,10		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0011,12		VRE0034E104	M.RESISTOR CH 1/10W 100K	2	
R0013,14		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	2	
R0015,16		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0017,18		VRE0034E153	M.RESISTOR CH 1/10W 15K	2	
R0019,20		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0021		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0022,23		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0024,25		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0026-28		VRE0034E303	M.RESISTOR CH 1/10W 30K	3	
R0029		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0030		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0031		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0032		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0033		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0034,35		VRE0055E682	M.RESISTOR CH 1/10W 6.8K	2	
R0036		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0037		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0038		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0039		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0040		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0041		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0042		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R0043		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R0044,45		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0046,47		VRE0034E104	M.RESISTOR CH 1/10W 100K	2	
R0048,49		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	2	
R0050,51		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0052,53		VRE0034E153	M.RESISTOR CH 1/10W 15K	2	
R0054,55		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0056		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0057,58		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0059,60		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0061-63		VRE0034E303	M.RESISTOR CH 1/10W 30K	3	
R0064		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0065		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0066		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0067		VRE0055E102	M.RESISTOR CH 1/10W 1K	1	
R0068		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0069,70		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0071		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0072		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0073		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0074		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0075		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0076		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R0077		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R0079		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0080		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0081		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R0082		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0083		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R0084		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0085,86		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0087		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	1	
SW0001-04		VSS0289	SWITCH	4	
VR0001		VRV0062B102	V.RESISTOR 1K	1	
VR0002		VRV0069B103	V.RESISTOR W 10K	1	

NTSC

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR0003		VRV0062B102	V.RESISTOR 1K	1	
VR0004		VRV0069B103	V.RESISTOR W 10K	1	
VR0005		VRV0062B104	V.RESISTOR 100K	1	
VR0006		VRV0069B103	V.RESISTOR W 10K	1	
VR0007		VRV0062B104	V.RESISTOR 100K	1	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	2	
		VJS2333	CONNECTOR (FEMALE)	79	
	■	VEP20428A	P.C.BOARD W/COMPONENT		
			CALL		
D0001		1N38GP	DIODE	1	
			RESISTORS		
R0001		VRE0054B301	M.RESISTOR CH 1/10W 300	1	
SW0001		VSP0483	SWITCH	1	
			MISCELLANEOUS		
		KL04	LED SPACER	1	

ELECTRICAL PARTS LIST (PAL)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP20370A	P.C.BOARD W/COMPONENT	1	
			MOTHER		
		VEP24020A	P.C.BOARD W/COMPONENT	1	
			HEAD AUDIO (C/F)		
		VEP23134A	P.C.BOARD W/COMPONENT	1	
			HEAD VIDEO (C/F)		
		VEP23135A	P.C.BOARD W/COMPONENT	1	
			HEAD DIGITAL (C/F)		
		VEP20363A	P.C.BOARD W/COMPONENT	1	
			OPT LINK		
		VEP21114A	P.C.BOARD W/COMPONENT	1	
			REG (C/F)		
		VEP21109A	P.C.BOARD W/COMPONENT	1	
			POWER		
		VEP20372A	P.C.BOARD W/COMPONENT	1	
			79P		
		VEP20413A	P.C.BOARD W/COMPONENT	1	
			LED		
		VEP20428A	P.C.BOARD W/COMPONENT	1	
			CALL		

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20370A	P.C.BOARD W/COMPONENT		
			MOTHER		
CN0001		VJP2741B026	CONNECTOR(MALE)	1	
CN0002		VJP2741B008	CONNECTOR(MALE)	1	
CN0003		VJP2741B016	CONNECTOR(MALE)	1	
CN0004		VJP2741B014	CONNECTOR(MALE)	1	
CN0005		VJP2741B024	CONNECTOR(MALE)	1	
CN0006		VJP2741B014	CONNECTOR(MALE)	1	
CN0007		VJP2739B002	CONNECTOR(MALE)	1	
CN0008		VJP2741B020	CONNECTOR(MALE)	1	
CN0009		VJP2741B010	CONNECTOR(MALE)	1	
J0001-03		VJS2744A040	CONNECTOR (FEMALE)	3	
	■	VEP24020A	P.C.BOARD W/COMPONENT		
			HEAD AUDIO (C/F)		
			CAPACITORS		
C4001-04		ECA0JKF101	E.CAPACITOR 6.3V 100U	4	
C4005		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4006		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4007		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4008		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4009		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4010,11		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4012		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4013		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4014		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4015		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4016		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4017,18		ECA1CKF560	E.CAPACITOR 16V 56U	2	
C4019,20		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C4021		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4022		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4023-26		ECA0JKF101	E.CAPACITOR 6.3V 100U	4	
C4027		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4028		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4029		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4030		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4031		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4032,33		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4034		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4035		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4036		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4037		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4038		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4039		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4040		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4041		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4042		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4043		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4044		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4045		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4046,47		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4048		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4049		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4050		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4051		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4052		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4053,54		ECA0JKF121	E.CAPACITOR 6.3V 120U	2	
C4055,56		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C4057		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4058		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4059		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4060		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4061		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4062		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C4063		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4064		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4065,66		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C4067		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4068		ECA1VKF2R2	E.CAPACITOR 35V 2.2U	1	
C4069		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4070		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4071		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4072		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4073		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4074		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4075		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4076		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4077		ECEA1CBK220	E.CAPACITOR 16V 22U	1	
C4078		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4079		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C4080		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4081		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4082		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4083		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4084		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4085		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C4086		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4087		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4088		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4089		ECEA1CBK220	E.CAPACITOR 16V 22U	1	
C4090		ECST1AC106	T.CAPACITOR 10V 10U	1	
C4091		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4092		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C4093		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4094		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4095		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4096		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C4097		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4098		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C4099		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C4100		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4101		ECEA1CBK220	E.CAPACITOR 16V 22U	1	
C4102		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4103		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C4104		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C4105		ECEA1CBK100	E.CAPACITOR 16V 10U	1	
CN4001		VJP2744B040	CONNECTOR (MALE)	1	
D4001		MA151K	DIODE	1	
EL4001		VJP1940	CONNECTOR SWITCH	1	
IC4001,02		UPC4570G	IC	2	
IC4003		MN6460S	IC	1	
IC4004,05		UPC4570G	IC	2	
IC4006		MN6460S	IC	1	
IC4007,08		UPC4570G	IC	2	
IC4009		MN6460S	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC4010,11		UPC4570G	IC	2	
IC4012		MN6460S	IC	1	
IC4013-15		UPC4570G	IC	3	
IC4016		MN6470S	IC	1	
IC4017-19		UPC4570G	IC	3	
IC4020		MN1280P	IC	1	
IC4021		MN6470S	IC	1	
IC4022-25		UPC4570G	IC	4	
L4001-04		VLQEL05F470J	COIL 47UH	4	
			RESISTORS		
R4001		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R4002-05		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	4	
R4006-08		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4009		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4010		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4011,12		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4013		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4014		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4015		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4016		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4017		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R4018-21		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	4	
R4022-24		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4025		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4026		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4027,28		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4029		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4030		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4031		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4034		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R4035		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4036-38		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4039		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4040		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4041,42		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4043		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4044		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4045		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4046,47		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4048		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R4049		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4050-52		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4053,54		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4055		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4056,57		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4058		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R4059		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4060		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4061		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R4062-64		VRE0034E561	M.RESISTOR CH 1/10W 560	3	
R4065,66		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4067		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R4068		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R4069,70		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	2	
R4071,72		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4073,74		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	
R4075,76		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R4077		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4078,79		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R4080,81		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4082,83		VRE0034E331	M.RESISTOR CH 1/10W 330	2	
R4084-86		VRE0034E561	M.RESISTOR CH 1/10W 560	3	
R4087-90		VRE0034E103	M.RESISTOR CH 1/10W 10K	4	
R4091		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	1	
R4092		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R4093,94		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	2	
R4095,96		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4097,98		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4099,00		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R4101		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R4102,03		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R4104,05		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4106,07		VRE0034E331	M.RESISTOR CH 1/10W 330	2	
R4108		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R4109,10		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4111-13		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
R4114.15		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R4116,17		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	
R4118,19		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R4120,21		VRE0034E393	M.RESISTOR CH 1/10W 39K	2	
R4122-26		VRE0034E103	M.RESISTOR CH 1/10W 10K	5	
R4127		VRE0034E133	M.RESISTOR CH 1/10W 13K	1	
R4128		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R4129		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R4130		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R4131,32		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	1	
		VMP3468	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP23134A	P.C.BOARD W/COMPONENT		
			HEAD VIDEO (C/F)		
			CAPACITORS		
C3001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3002		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3003		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3004		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3005		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3006		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3007		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3008,09		ECA1AKF820	E.CAPACITOR 10V 82U	2	
C3010		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3012		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3013		ECUM1H020DCN	C.CAPACITOR CH 50V 2P	1	
C3014,15		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	2	
C3019		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3020		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3021		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3022,23		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3025		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3032		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3033		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3034		ECA1AKF820	E.CAPACITOR 10V 82U	1	
C3035		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
CN3001		VJP2744B040	CONNECTOR (MALE)	1	
D3002		MA151WK	DIODE	1	
D3003		MA3056	DIODE	1	
D3004		MA151K	DIODE	1	
D3005		MA3091	DIODE	1	
D3006		MA151K	DIODE	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
EL3001-03		VJP1940	CONNECTOR SWITCH	3	
FL3001,02		VLF0754	FILTER	2	
IC3001-04		AD847JR	IC	4	
IC3005		MC14053BF	IC	1	(R)
IC3006		AD847JR	IC	1	
IC3007,08		UPC271G	IC	2	
IC3009,10		AD847JR	IC	2	
IC3011		NJM360M	IC	1	
L3003,04		VLQEL05F470J	COIL 47UH	2	
L3007,08		VLQEL05F470J	COIL 47UH	2	
Q3001		2SC2295	TRANSISTOR CHIP	1	(B,C)
Q3002		2SC2720	TRANSISTOR	1	
Q3003,04		2SC2295	TRANSISTOR CHIP	2	(B,C)
			RESISTORS		
R3001		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3002		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3003		VRE0034E511	RESISTOR	1	
R3004		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3005		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3006		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3007		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3008		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3009		VRE0034E511	RESISTOR	1	
R3010		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R3011		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3012		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3013		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3014		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3015		VRE0034E511	RESISTOR	1	
R3016		VRE0034E621	M.RESISTOR CH 1/10W 620	1	
R3017		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3018		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3019		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3020		VRE0034E511	RESISTOR	1	
R3022		VRE0034E511	RESISTOR	1	
R3023,24		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3025		VRE0034E750	M.RESISTOR CH 1/10W 75	1	
R3026,27		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3028		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3029		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3030		VRE0034E511	RESISTOR	1	
R3031		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3032		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3033		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3034		VRE0034E511	RESISTOR	1	
R3035		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3036		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R3037		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R3038		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3039		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	1	
R3040		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3041-43		VRE0034E103	M.RESISTOR CH 1/10W 10K	3	
R3044		VRE0034E511	RESISTOR	1	
R3046		VRE0034E511	RESISTOR	1	
R3047,48		VRE0034E301	M.RESISTOR CH 1/10W 300	2	
R3049		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3050		VRE0034E511	RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3051		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R3052		VRE0055E750	M.RESISTOR 1/4W 75	1	
R3053		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3054,55		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3056		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R3057		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R3058,59		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3060,61		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R3062,63		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R3065,66		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	2	
R3067		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3069		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3071		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
TP3001-07		VJR0460	TEST POINT	7	
VR3001-05		VRV006ZB101	V.RESISTOR 100	5	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	3	
		VMP3467	P.C.B. HOLDER ANGLE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FB	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP23135A	P.C.BOARD W/COMPONENT		
			HEAD DIGITAL (C/F)		
			CAPACITORS		
C3001-03		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3004		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3005		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3006		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3007,08		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3009		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3010-22		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	13	
C3023		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C3024		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3025		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3026		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C3027		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3028,29		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3030		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3031		VCK0136K155	C.CAPACITOR V 0.15U	1	
C3032,33		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3034		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3035		VCK0136K155	C.CAPACITOR V 0.15U	1	
C3036		ECA0JKF121	E.CAPACITOR 6.3V 120U	1	
C3037-54		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	18	
C3055		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3056-59		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C3060		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3061-63		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3064		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3065		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3066		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3067,68		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3069		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3070-72		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3073,74		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	2	
C3075		ECA1AKF220	E.CAPACITOR 10V 22U	1	
C3076,77		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3078		ECST1AC226	T.CAPACITOR 10V 2.2U	1	
C3079,80		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3081		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3082		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3083		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3084,85		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C3086		ECST1AC106	T.CAPACITOR 10V 10U	1	
C3087-89		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C3090-93		ECA0JKF121	E.CAPACITOR 6.3V 120U	4	
C3094-02		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	9	
C3103		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3104		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3105		ECA1AKF220	E.CAPACITOR 10V 22U	1	
C3106		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3107		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3108		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3109		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3110		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C3111		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
CN3016		VJP2741B024	CONNECTOR (MALE)	1	
CN3017		VJP2741B014	CONNECTOR (MALE)	1	
CN3018		VJP2741B016	CONNECTOR (MALE)	1	
CN3019		VJP2741B022	CONNECTOR (MALE)	1	
D3001,02		MA152K	DIODE	2	
FL3001-03		VLF0981	FILTER	3	
IC3001-03		VC5498	IC	3	
IC3004		74AC74SJ	IC	1	
IC3005		MC74HC161F	IC	1	
IC3006		74AC245SJ	IC	1	
IC3007,08		UPD42102G-3	IC	2	
IC3009		74AC74SJ	IC	1	
IC3010		L7A0880	IC	1	
IC3011,12		UUA0018	IC	2	
IC3013		VSC3KI-122A	IC	1	
IC3014,15		MC4044M	IC	2	
IC3016		74AC00SJ	IC	1	
IC3017		MB811RZF	IC	1	
IC3018		HD6475208F	IC	1	
IC3019		MN1280P	IC	1	
IC3020		L7A0881	IC	1	
IC3021		MC4044M	IC	1	
IC3022		ADV7122	IC	1	
IC3023		M5220FP	IC	1	
J3007-10		VJS3303	CONNECTOR (FEMALE)	4	
L3001		VLQ0409K470	COIL 47UH	1	
Q3001		2SC3734B24	TRANSISTOR	1	
			RESISTORS		
R3001		VRE0034E101	M.RESISTOR CH 1/10W 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3002		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R3003,04		VRE0034E223	M.RESISTOR CH 1/10W 22K	2	
R3005		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3007,08		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3010,11		VRE0034E510	M.RESISTOR CH 1/10W 51	2	
R3012,13		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	
R3014-21		VRE0034E510	M.RESISTOR CH 1/10W 51	8	
R3022		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R3023		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3024		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R3025		VRE0034E511	RESISTOR	1	
R3026		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3027		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R3028		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R3029		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3030		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3031		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R3032		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3033		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3034		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R3035		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R3036		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3037		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R3038,39		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3040		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R3041		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R3042-44		VRE0034E223	M.RESISTOR CH 1/10W 22K	3	
R3045-52		VRE0034E101	M.RESISTOR CH 1/10W 100	8	
R3054,55		VRE0034E101	M.RESISTOR CH 1/10W 100	2	
R3057		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3058		VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R3059		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R3060		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R3061		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R3062		VRE0034E561	M.RESISTOR CH 1/10W 560	1	
R3063-65		VRE0034E750	M.RESISTOR CH 1/10W 75	3	
R3066		VRE0034E183	M.RESISTOR CH 1/10W 18K	1	
R3067-69		VRE0034E682	M.RESISTOR CH 1/10W 6.8K	3	
X3001		VSX0341	CRYSTAL OSCILLATOR	1	
X3002		VSX0527	CRYSTAL OSCILLATOR	1	
X3003		VSX0528	CRYSTAL OSCILLATOR	1	
X3004		VSX0527	CRYSTAL OSCILLATOR	1	
ZD3001		AD589JH	IC	1	
	■	VEP20363A	P.C.BOARD W/COMPONENT		
			OPT LINK		
			CAPACITORS		
C0001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0002		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C0003		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0004		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C0005		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0006		VCK0136K155	C.CAPACITOR V 0.15U	1	
C0007		ECEA1AKG680	E.CAPACITOR 10V 68U	1	
C0008		VCK0136K155	C.CAPACITOR V 0.15U	1	
C0009		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C0010-12		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C0013		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C0014-24		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	11	
C0026		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0027		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C0028		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0029		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0030		VCK0136K155	C.CAPACITOR V 0.15U	1	
C0031,32		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C0033-40		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	8	
C0041		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0042		ECEA1AKG680	E.CAPACITOR 10V 68U	1	
C0043		VCK0136K155	C.CAPACITOR V 0.15U	1	
C0044		ECEA0JKG101	E.CAPACITOR 6.3V 100U	1	
C0045		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0046		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0047		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0048		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C0049		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C0050		VCK0136K155	C.CAPACITOR V 0.15U	1	
C0051,52		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C0053-59		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	7	
CN0001		VJP2739A002	CONNECTOR (MALE)	1	
CN0002-04		VJS3307	CONNECTOR (FEMALE)	3	
D0001,02		MA157A	DIODE	2	
D0003		FLD130C2PM	DIODE	1	
D0004		FID132B1PZ	DIODE	1	
DL0001		FDC1505	DELAY	1	
DL0002		FDC1505	DELAY	1	
FL0001-05		VLF0981	FILTER	5	
FL0006		WF282B	FILTER	1	
IC0001		UUA0018A	IC	1	
IC0002		AN1324NS	IC	1	
IC0003		UPC1675G	IC	1	
IC0004		UUA0018A	IC	1	
IC0005,06		MB812AZF	IC	2	
IC0007		UPC1675G	IC	1	
IC0008		UUA0018A	IC	1	
Q0001-03		2SC2845	TRANSISTOR	3	
Q0004,05		2SC3358	TRANSISTOR	2	
Q0006		2SB956	TRANSISTOR	1	(S)
			RESISTORS		
R0001		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0002		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0003		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R0004		VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R0005		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0006		VRE0034E271	M.RESISTOR CH 1/10W 270	1	
R0007		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0008		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R0009		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0010		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R0011		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0012		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R0013		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0014,15		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R0016		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R0017,18		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R0019,20		VRE0034E331	M.RESISTOR CH 1/10W 330	2	
R0021		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0022		VRE0034E331	M.RESISTOR CH 1/10W 330	1	
R0023		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R0024		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0025-32		VRE0034E510	M.RESISTOR CH 1/10W 51	8	
R0034		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0035		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0036		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0037		VRE0034E391	M.RESISTOR CH 1/10W 390	1	
R0038		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R0039		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0040		VRE0034E510	M.RESISTOR CH 1/10W 51	1	
R0041-44		VRE0034E391	M.RESISTOR CH 1/10W 390	4	
R0045		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0046		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
R0047		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R0048		VRE0034E470	M.RESISTOR CH 1/10W 47	1	
			MISCELLANEOUS		
		VJF1007	HOLDER	2	
		VSC3546	SHIELD CASE	1	
		VSC3547	SHIELD CASE	1	
	■	VEP21114A	P.C.BOARD W/COMPONENT REG (C/F)		
			CAPACITORS		
C1001		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C1002		ECEA1VGE330	E.CAPACITOR 35V 33U	1	
C1003		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1004		ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C1005		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1007		ECEA0JGE331	E.CAPACITOR 6.3V 330U	1	
C1008		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C1009		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1010		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1011		ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	1	
C1013		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1014		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1015		ECA1VFQ151	E.CAPACITOR 35V 150U	1	
C1016		ECA1VFQ331	E.CAPACITOR 35V 330U	1	
C1017		ECUM1H152KBN	C.CAPACITOR CH 50V 1500P	1	
C1018,19		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1020		ECA1AFQ471	E.CAPACITOR 10V 470U	1	
C1021		ECA1VFQ331	E.CAPACITOR 35V 330U	1	
C1022		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1023,24		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1025,26		ECA1AFQ471	E.CAPACITOR 10V 470U	2	
C1027		ECEA0JGE331	E.CAPACITOR 6.3V 330U	1	
C1028		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C1029		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1030		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C1031		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C1033		ECA1VKF120	E.CAPACITOR 35V 12U	1	
C1039-41		ECEA1JFE180	E.CAPACITOR 63V 18U	3	
C1042		ECA1VFQ331	E.CAPACITOR 35V 330U	1	
C1043		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1044,45		VCEA1AAP221	E.CAPACITOR 10V 220U	2	
C1046		ECA1AFQ471	E.CAPACITOR 10V 470U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
CN1001		VJP2744B040	CONNECTOR (MALE)	1	
D1001		MA151K	DIODE	1	
D1002		MA151WK	DIODE	1	
D1003		MA151K	DIODE	1	
D1004		MA151WK	DIODE	1	
D1005-08		MA151K	DIODE	4	
D1009		MA3180	DIODE	1	
D1010		EA60QC04F	DIODE	1	
D1011		MA3056-L	DIODE	1	
D1012		MA3180	DIODE	1	
D1013		EA60QC04F	DIODE	1	
D1014		MA3056-L	DIODE	1	
D1015		MA151K	DIODE	1	
D1016		MA3180	DIODE	1	
D1017		E10QS10	DIODE	1	
D1018,19		MA3220M	DIODE	2	
D1020		MA3120	DIODE	1	
D1021		MA3180	DIODE	1	
D1022		EA60QC04F	DIODE	1	
D1023		MA3056-L	DIODE	1	
IC1001		TL082CPS	IC	1	
IC1002		NJM2904M	IC	1	
IC1003,04		TL1451CNS	IC	2	
L1001		VLQ0297	COIL	1	
L1002		VLQ0400	COIL	1	
L1003,04		VLQ0297	COIL	2	
L1005		VLQ0559	COIL	1	
L1006		VLQ0297	COIL	1	
L1007		VLQ0400	COIL	1	
L1008		VLQ0297	COIL	1	
L1009		VLQ0400	COIL	1	
L1010		VLQ0297	COIL	1	
Q1001,02		2SD601A	TRANSISTOR CHIP	2	(R)
Q1003		UN2215	TRANSISTOR-RESISTOR	1	(R)
Q1004		2SD601A	TRANSISTOR CHIP	1	(R)
Q1005		2SB709A	TRANSISTOR	1	(R)
Q1006,07		2SJ245S	TRANSISTOR	2	(R)
Q1008		2SD601A	TRANSISTOR CHIP	1	(R)
Q1009		2SB709A	TRANSISTOR	1	(R)
Q1010,11		2SJ245S	TRANSISTOR	2	(R)
Q1012		2SB709A	TRANSISTOR	1	(R)
Q1013-16		2SD601A	TRANSISTOR CHIP	4	(R)
Q1017		IRFS120	TRANSISTOR	1	
Q1018		2SD814	TRANSISTOR	1	(R)
Q1019		2SD968	TRANSISTOR	1	(R)
Q1020		2SD814	TRANSISTOR	1	(R)
Q1021		2SB792	TRANSISTOR	1	(R)
Q1022		2SD601A	TRANSISTOR CHIP	1	(R)
Q1023		2SB709A	TRANSISTOR	1	(R)
Q1024		2SJ245S	TRANSISTOR	1	(R)
Q1025		2SD601A	TRANSISTOR CHIP	1	(R)
			RESISTORS		
R1001		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R1002		ERW2PKR10	W.RESISTOR 2W 0.1	1	
R1003		VRE0034E152	M.RESISTOR CH 1/10W 1.5K	1	
R1004		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1005,06		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	2	
R1007,08		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1009,10		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R1011		VRE0034E270	M.RESISTOR CH 1/10W 75	1	
R1012		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R1013		VRE0034E753	M.RESISTOR CH 1/10W 75K	1	
R1014		VRE0034E243	M.RESISTOR CH 1/10W 2.4K	1	
R1015		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1016		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1017		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1018		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R1019		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1020		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1021		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1022		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1023		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1024		VRE0034E132	M.RESISTOR CH 1/10W 1.3K	1	
R1025		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1026		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R1027		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R1028		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1029		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1030		VRE0034E623	M.RESISTOR CH 1/10W 62K	1	
R1031		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1032,33		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R1034		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1035		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1036		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1037		VRE0034E113	M.RESISTOR CH 1/10W 11K	1	
R1038		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1039		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R1040		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1041		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R1042,43		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1044,45		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	2	
R1046,47		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	2	
R1048		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R1049,50		VRE0034E181	M.RESISTOR CH 1/10W 180	2	
R1051,52		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	2	
R1053		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R1054		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1055		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R1056		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R1057		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1058,59		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R1060		VRE0034E270	M.RESISTOR CH 1/10W 75	1	
R1061		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R1062		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R1063		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R1064		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1065		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1066		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R1067		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1068		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1069		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R1070		VRE0034E511	RESISTOR	1	
R1071		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R1074-76		VRE0034E333	M.RESISTOR CH 1/10W 33K	3	
R1077		VRE0034E363	M.RESISTOR CH 1/10W 36K	1	
R1080		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1081		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R1082		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R1083		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1084,85		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
R1086		VRE0034E332	M.RESISTOR CH 1/10W 3.3K	1	
R1087		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R1088		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R1089		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R1090		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R1091		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1092,93		VRE0034E102	M.RESISTOR CH 1/10W 1K	2	
VR1001		VRV0062B502	V.RESISTOR 5K	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VMP3613	P.C.B. HOLDER ANGLE	1	
		VMS4911	PIN	2	
		VSC3606	SHIELD CASE	1	
		XNG26BFZ	NUT	2	
		XSB26+4FC	SCREW	6	
		XSB26+4FZ	SCREW	2	
		XSN26+10FZ	SCREW	2	
	■	VEP21109A	P.C.BOARD W/COMPONENT		
			POWER		
			CAPACITORS		
C1001		ECEA1HGE010	E.CAPACITOR 50V 1U	1	
C1002		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C1003		ECEA1VGE331	E.CAPACITOR 35V 330U	1	
C1004		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	1	
C1005		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C1006,07		ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	2	
C1009		ECOS2GX560CA	E.CAPACITOR 400V 56U	1	
C1015		ECWH10H183JR	C.CAPACITOR 500V	1	
C1020		ECWF4274JZ	C.CAPACITOR V	1	
C1027,28		ECA1EFZ681	E.CAPACITOR 25V 680U	2	
C1029		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1032		ECA0JKF470	E.CAPACITOR 6.3V 47U	1	
C1033,34		ECA1EFZ681	E.CAPACITOR 25V 680U	2	
C1036		ECEA1AGE471	E.CAPACITOR 10V 470U	1	
C1037,38		ECEA1HGE010	E.CAPACITOR 50V 1U	2	
C1039		ECA1VFZ820	E.CAPACITOR 35V 82U	1	
C1041		ECEA2AFE101	E.CAPACITOR 100V 100U	1	
C1042		ECA1VKF4R7	E.CAPACITOR 35V 4.7U	1	
C1043		ECSF1EE1R5	T.CAPACITOR 25V 1.5P	1	
D1001		GBU8K	DIODE	1	
D1002		MA4270	DIODE	1	
D1003		MA151K	DIODE	1	
D1004		E11FS2	DIODE	1	
D1006		15DF8	DIODE	1	
D1008		MA4270	DIODE	1	
D1016		C30P10Q	DIODE	1	
D1017		MA3140	DIODE	1	
D1019		MA151K	DIODE	1	
D1020		E11FS2	DIODE	1	
D1021,22		MA151K	DIODE	2	
D1024		SP4SMA	DIODE	1	
D1025		E11FS2	DIODE	1	
D1026		MA151K	DIODE	1	
D1027		MA4270	DIODE	1	
FL1001		VLF0946	FILTER	1	
IC1001		FA5304S	IC	1	
IC1003,04		PC113A	IC	2	
IC1005		NJM431U	IC	1	
L1002		VLQ0559	COIL	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P1001		VJP2073	CONNECTOR (MALE)	1	
P1002		VJP2824A002	CONNECTOR (MALE)	1	
Q1001,02		2SD601A	TRANSISTOR	2	(R)
Q1004		2SK1082	TRANSISTOR	1	
Q1009,10		2SD601A	TRANSISTOR	2	(R)
Q1011,12		2SB709A	TRANSISTOR	2	(R)
Q1013		2SC3568	TRANSISTOR	1	
			RESISTORS		
R1001,02		ERG2SJ223	M.RESISTOR 2W 22K	2	
R1004		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R1006		VRE0034E221	M.RESISTOR CH 1/10W 220	1	
R1007		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R1009		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R1010		VRE0034E330	M.RESISTOR CH 1/10W 33	1	
R1011		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R1013,14		ERG2SJ473	M.RESISTOR 2W 47K	2	
R1021-23		ERG2SJ104	M.RESISTOR 2W 100K	3	
R1029		ERDS2TJ220	C.RESISTOR 1/4W 22	1	
R1030		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1032		ERW2PKR10	W.RESISTOR 2W 0.1	1	
R1050		ERG2SJ2R4	M.RESISTOR 2W 2.4	1	
R1051		VRE0034E222	M.RESISTOR CH 1/10W 2.2K	1	
R1052		VRE0034E511	RESISTOR	1	
R1053		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R1054		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1055		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1056,57		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R1058		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R1059		VRE0034E101	M.RESISTOR CH 1/10W 100	1	
R1060		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R1061		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R1062		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R1063		VRE0034E471	M.RESISTOR CH 1/10W 470	1	
R1064		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R1065,66		ERW2PKR10	W.RESISTOR 2W 0.1	2	
R1067		ERG12SJ331	M.RESISTOR 1/2W 330	1	
R1069		VRE0034E201	M.RESISTOR CH 1/10W 200	1	
R1072,73		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	2	
R1075		ERG2SJ221	M.RESISTOR 2W 220	1	
R1076		ERG2SJ102	M.RESISTOR 2W 1K	1	
R1079		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R1080,81		ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R1082		ERF5TJ151	W.RESISTOR 5W 150	1	
R1083		ERG2SJ221	M.RESISTOR 2W 220	1	
R1085		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R1086		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
T1001		VLT0670	TRANSFORMER	1	
VR1001		VRV0069B101	V.RESISTOR W 100	1	
			MISCELLANEOUS		
		VJF0190	HOLDER	4	
		VJR0714	PIN	1	
		VMZ0429	BARRIER	2	
		VMZ1305	BARRIER	2	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP20372A	P.C.BOARD W/COMPONENT		
			79P		
			CAPACITORS		
C0001		ECEA1HGE220	E.CAPACITOR 50V 22U	1	
C0002		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C0003		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0004,05		ECEA1HGE220	E.CAPACITOR 50V 22U	2	
C0006,07		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C0008		ECST1AY225	T.CAPACITOR 10V 2.2U	1	
C0009		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0010		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0011		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0012		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C0013		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0014,15		ECEA1HGE220	E.CAPACITOR 50V 22U	2	
C0016,17		ECA1CKF150	E.CAPACITOR 16V 15U	2	
C0018		ECST1CY105	T.CAPACITOR 16V 1U	1	
C0019		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0020		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0021		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C0022		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0023		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C0024		ECST1AY225	T.CAPACITOR 10V 2.2U	1	
C0025,26		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C0027		ECEA1CBK100	E.CAPACITOR 16V 10U	1	
C0028		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C0029		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C0030		ECA1CKF560	E.CAPACITOR 16V 56U	1	
C0031,32		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C0033		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C0034		ECA1CKF150	E.CAPACITOR 16V 15U	1	
C0035		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C0036		ECA1CKF150	E.CAPACITOR 16V 15U	1	
CN0001		VJS1893	CONNECTOR (FEMALE)	1	
CN0002		VJP2741B016	CONNECTOR (MALE)	1	
CN0003		VJP2741B022	CONNECTOR (MALE)	1	
CN0004		VJP2741B026	CONNECTOR (MALE)	1	
CN0005		VJP2741B008	CONNECTOR (MALE)	1	
CN0006		VJP2741B020	CONNECTOR (MALE)	1	
EL0001,02		VJP2045	CONNECTOR (MALE)	2	
IC0001,02		UPC4570G	IC	2	
IC0003,04		TL062CPS	IC	2	
IC0005,06		UPC4570G	IC	2	
IC0007,08		TL062CPS	IC	2	
IC0009		UPC4570G	IC	1	
IC0010		TL062CPS	IC	1	
IC0011		TL061CPS	IC	1	
IC0012		NJM431U	IC	1	
IC0013		UPC4557C	IC	1	
L0001		VLQEL05F470J	COIL 47UH	1	
Q0001-04		2SK198	TRANSISTOR	4	(P)
Q0005		2SB710	TRANSISTOR	1	(Q,R)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R0001		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0002		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0003		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0004		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0005		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R0006		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R0007,08		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0009,10		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0011,12		VRE0034E104	M.RESISTOR CH 1/10W 100K	2	
R0013,14		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	2	
R0015,16		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0017,18		VRE0034E153	M.RESISTOR CH 1/10W 15K	2	
R0019,20		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0021		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0022,23		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0024,25		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0026-28		VRE0034E303	M.RESISTOR CH 1/10W 30K	3	
R0029		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0030		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0031		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0032		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0033		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0034,35		VRE0055E682	M.RESISTOR CH 1/10W 6.8K	2	
R0036		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0037		VRE0034E181	M.RESISTOR CH 1/10W 180	1	
R0038		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0039		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0040		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0041		VRE0034E102	M.RESISTOR CH 1/10W 1K	1	
R0042		VRE0034E431	M.RESISTOR CH 1/10W 430	1	
R0043		VRE0034E821	M.RESISTOR CH 1/10W 820	1	
R0044,45		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0046,47		VRE0034E104	M.RESISTOR CH 1/10W 100K	2	
R0048,49		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	2	
R0050,51		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0052,53		VRE0034E153	M.RESISTOR CH 1/10W 15K	2	
R0054,55		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0056		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0057,58		VRE0034E303	M.RESISTOR CH 1/10W 30K	2	
R0059,60		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0061-63		VRE0034E303	M.RESISTOR CH 1/10W 30K	3	
R0064		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0065		VRE0034E303	M.RESISTOR CH 1/10W 30K	1	
R0066		VRE0034E301	M.RESISTOR CH 1/10W 300	1	
R0067		VRE0055E102	M.RESISTOR CH 1/10W 1K	1	
R0068		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0069,70		VRE0034E203	M.RESISTOR CH 1/10W 20K	2	
R0071		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0072		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0073		VRE0034E104	M.RESISTOR CH 1/10W 100K	1	
R0074		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0075		VRE0034E203	M.RESISTOR CH 1/10W 20K	1	
R0076		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R0077		VRE0034E393	M.RESISTOR CH 1/10W 39K	1	
R0079		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R0080		VRE0034E681	M.RESISTOR CH 1/10W 680	1	
R0081		VRE0034E432	M.RESISTOR CH 1/10W 4.3K	1	
R0082		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R0083		VRE0034E562	M.RESISTOR CH 1/10W 5.6K	1	
R0084		VRE0034E513	M.RESISTOR CH 1/10W 5.1K	1	
R0085,86		VRE0034E103	M.RESISTOR CH 1/10W 10K	2	
R0087		VRE0034E912	M.RESISTOR CH 1/10W 9.1K	1	
SW0001-04		VSS0289	SWITCH	4	
VR0001		VRV0062B102	V.RESISTOR 1K	1	
VR0002		VRV0069B103	V.RESISTOR W 10K	1	

PAL

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR0003		VRV0062B102	V.RESISTOR 1K	1	
VR0004		VRV0069B103	V.RESISTOR W 10K	1	
VR0005		VRV0062B104	V.RESISTOR 100K	1	
VR0006		VRV0069B103	V.RESISTOR W 10K	1	
VR0007		VRV0062B104	V.RESISTOR 100K	1	
			MISCELLANEOUS		
		VJS1940	CONNECTOR (FEMALE)	2	
		VJS2333	CONNECTOR (FEMALE)	79	
	■	VEP20428A	P.C.BOARD W/COMPONENT		
			CALL		
D0001		LN38GP	DIODE	1	
			RESISTORS		
R0001		VRE0054B301	M.RESISTOR CH 1/10W 300	1	
SW0001		VSP0483	SWITCH	1	
			MISCELLANEOUS		
		XL04	LED SPACER	1	